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# THE PHILOSOPHICAL REVIEW

EDITED BY

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WITH THE COÖPERATION OF

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# THE PHILOSOPHICAL REVIEW.

## CONSCIOUSNESS AND SELF-CONSCIOUSNESS.

EVERY one knows in a general way what consciousness is, but when we try to define it we encounter two formidable difficulties. One is caused by the various uses of the term. The old and familiar usage has been criticized and rejected by recent psychologists, and some have even gone so far as to discredit the word altogether and to suggest its banishment from the psychological vocabulary. Others have proposed new and strange applications of it. But consciousness as it has been long and almost universally understood, being an indisputable fact of experience, must have a name to designate it, and there seems to be no sufficient reason for not retaining the name which immemorial usage has assigned to it.

The other difficulty belongs to the nature of that which is to be defined. Consciousness underlies every form of experience as its indispensable presupposition. Without it there could be no mental life. It is the condition and form of all our mental activity, the medium and repository of all our mental data. It is also the source of all our knowledge of the mental operations which we perform upon those data or by means of them. Consciousness then is a primary fact. Of our mental life it is *the* primary fact. But a primary fact is incapable of formal definition. There is no wider class to which we can assign it and there is no variant species from which we can distinguish it.

But there are other methods that may be employed to express its meaning. We may learn what consciousness is

by noting instances of its presence or absence. If we strike a stone, it is insensible to the blow; but if we strike a living and waking animal, it is instantly conscious of it. As we say, the stone does not *feel* the blow; the animal does. Or, we may define consciousness by its denotation; that is, by enumerating its different kinds: as sensation, perception, memory, imagination, thought, emotion, desire, will. When we have recognized these kinds, as we do intuitively and inevitably, we pass naturally from them to consciousness as a general idea. Or, again, the meaning of consciousness may be made more explicit by comparing it with a kindred word. It is closely allied to awareness. The two words are not exactly synonymous, awareness being the broader term and often having a more outward meaning than consciousness has. Awareness is either mediate or immediate, while consciousness is always immediate. I may say of another person 'I am aware of his conduct and his motives.' But I can not properly say 'I am conscious of his conduct,' still less 'I am conscious of his motives'; for the conduct of another, and still more his motives, are foreign to me and can not, as such, have a place in my consciousness. I can become aware of them only through a medium, as language or action. But with reference to what takes place in one's own mind the two words are interchangeable. I may say with equal propriety 'I am aware of my intention' or 'I am conscious of my intention.' In this case the awareness is immediate. Consciousness then may be called immediate awareness; and whoever knows what it is to be aware of his own mental operations has a pretty clear idea of what it is to be conscious. Another such kindred word is experience. By experience I mean the processes of mental life. An experience is any process of the mind—a sensation, a perception, an act of memory, or any other. A man's experience as a whole is his entire mental history. It is made up of two classes of elements. First, objects, of whatever kind; those things *of which* he has experience. These constitute the external or objective element. The other element is consciousness, which is that in the person *who has* the experience which renders him capable of having it. He is conscious of the objects presented; he is aware

of their presence. This is the internal or subjective element. It makes objects real *to him*.

Consciousness is not a kind of being, but a kind of activity. It is not an entity, but a function. In the material world the universal kind of activity is motion; in the mental world the universal kind of activity is consciousness. These two divide the universe of action between them. They also interact on each other. All conscious activity, animal or human, is caused directly or indirectly by material activity. The mind becomes conscious only as it is stimulated immediately or remotely from without through the nervous system. But consciousness in turn causes motion. It stimulates the brain, and through the brain the nerves, and through the nerves the muscles, and through the muscles it produces all the marvelous achievements of man. It is consciousness at last that raises and gathers harvests, that erects and operates factories, that transports the products of field and factory across continents and seas, that builds cities and organizes governments, and that fills the world with the light of civilization. The forms of consciousness are forms of energy.

All attributes of matter reduce at last to motion, and all attributes of mind reduce at last to consciousness. As various forms of motion are grouped together in a thing, so various forms of consciousness are grouped together in a mind; and as one form of motion is converted into another in endless succession, so the forms of consciousness are undergoing perpetual change.

There has been much discussion of late concerning the nature of consciousness. William James in an article on the question "Does Consciousness Exist?" gives this answer: "It [consciousness] is the name of a nonentity and has no right to a place among first principles."[1] "It seems to me that the hour is ripe for it to be openly and universally discarded."[2] But he hastens to add that he means only to deny that the word stands for an entity, but to insist most emphatically that it does stand for a function.[2] "That function," he says, "is *knowing*. 'Consciousness' is supposed necessary to explain the fact that things not only are,

[1] *Essays in Radical Empiricism*, p. 2.

[2] *Ibid.*, p. 3.

but get reported, are known. Whoever blots out the notion of consciousness must still provide in some way for that function's being carried on.

"My thesis," he continues, "is that if we start with the supposition that there is only one primal stuff or material in the world, a stuff of which everything is composed, and if we call that stuff 'pure experience,' then knowing [said above to be the function for which consciousness stands] can easily be explained as a particular sort of relation towards one another into which portions of pure experience may enter. The relation itself is a part of pure experience; one of its 'terms' becomes the subject or bearer of the knowledge, the knower; the other becomes the object known."[1] "A given undivided portion of experience taken in one context of associates plays the part of a knower, of a state of mind, of 'consciousness'; while in a different context the same undivided bit of experience plays the part of a thing known, of an objective 'content.'"[2] "The one self-identical thing . . . in one context is your 'field of consciousness'; in another it is 'the room in which you sit,' and it enters both contexts in its wholeness, giving no pretext for being said to attach itself to consciousness by one of its parts or aspects, and to outer reality by another. What are the two processes, now, into which the room-experience simultaneously enters in this way? One of them is the reader's personal biography, the other is the history of the house of which the room is part."[3]

But the question arises, How does the room-experience get into the reader's personal biography? How does it 'become known'? To say that it is "the last of a train of sensations, emotions, decisions, movements, classifications, expectations, etc., ending in the present, and the first of a series of similar 'inner' operations extending into the future," leaves us in the dark. The question returns, How did it get there? And what are these sensations and so on? and how did they get there? How did they 'get reported, become known'? The only possible answer is the old common-sense answer: The reader, the subject, was *conscious* of

[1] *Op. cit.*, p. 4.
[2] *Ibid.*, pp. 9–10.
[3] *Ibid.*, 12–13.

them. 'The room in which you sit' was there, and it became related as an object with the subject, and thereupon the consciousness of the subject apprehended it, 'knew' it, 'was conscious' of it. Relation there had to be; but the relation was not consciousness. It was a condition of consciousness. The consciousness itself was an apprehension, an awareness, due to a certain capacity—unique, inexplicable, like all first and fundamental things—native to the subject. The room could never become known to the reader's book, no matter what relations might be established, simply because the book lacks that native endowment.

James's theory is a mere hypothesis. "*If*," he says, "we start with the *supposition;*" and nowhere does he furnish any substantial ground for the supposition to stand on. He illustrates, but he gives no proof, and in all that he says, awareness, the real consciousness, is tacitly assumed.

What can be meant by calling knowing (which he identifies with the function consciousness) "a particular sort of a relation"? Consciousness and relation are incommensurable. Consciousness is a state of mental activity; broadly and fundamentally, it is awareness. But a relation is a connection of two or more things with each other, a mutual reference of different things to one another; as the relation of teacher and pupil or of brothers. It is simply impossible to make terms which are so utterly unlike equivalent to each other. As well say that thought is gravitation or that literature is a cube.

Again: there can be no relation without terms, something to be related. If consciousness is a relation, there can be no consciousness till the relation exists; and the relation can not exist till the things which are related, the terms, exist. But in this case, Professor James tells us, the terms are portions of pure experience. "Knowing," he says, "can easily be explained as a particular sort of relation into which *portions of pure experience* may enter." These 'portions of pure experience' must therefore exist before the relation called knowing, or consciousness, can exist. But experience, pure or otherwise, must be conscious, for unconscious experience is a pure absurdity. In other words,

consciousness is a condition precedent to experience. The theory then is reduced to this dilemma: Experience is a necessary condition of consciousness; and consciousness is a necessary condition of experience. Neither can exist till the other exists. In short, the theory is impossible.

It would seem that 'pure experience' is neither subjective nor objective. It may 'enter into' relations of both kinds. In itself therefore it must be neutral. But neutral experience as actually existing is inconceivable. If 'pure experience' means neutral experience it is a pure abstraction. Actual experience, so far from being neither subjective nor objective, is both. There is no real experience that does not have both aspects. It belongs to a subject and it has an object. These are the terms of the relation, and there can be no experience without them. "A relation which can get on somehow without terms . . . is, to my mind, a false abstraction, and a thing which loudly contradicts itself."[1]

The theory that consciousness is a relation seems to grow out of a misconception. We are told that it is "a way certain objects have of *being together*,"[2] "a unique way of *togetherness*."[3] [Italics in both cases mine.] The uniqueness of this way of togetherness pertains, it seems, to the center of the relations concerned. "In every distinct type of centered relation [*i. e.*, relation of togetherness] the kind of centrality enjoyed by some one or more of its terms is unique."[4] And the uniqueness lies in the fact that "*the center of experience is a conscious center.*"[4] [Italics the author's.]

These statements do not seem to make any progress. We ask, What is consciousness? and we are told that it is a unique kind of togetherness. Where is the uniqueness of this particular kind of togetherness to be found? The answer is, it is a uniqueness of the center. In what then does the uniqueness of the center consist? "The center of experience is a *conscious* center." But what is 'experience'? "Any *consciousness* complex is an 'ex-

[1] Bradley, *Appearance and Reality*, p. 32.
[2] E. B. McGilvary, PHILOSOPHICAL REVIEW, XXI, p. 169.
[3] *Ibid.*, p. 171.
[4] *Ibid.*, p. 164.

perience.'"[1] When we have traveled around this luminous circle what more do we know about the nature of consciousness than we did when we started?

There must indeed be a center of consciousness. That is the conscious self.[2] And there must be something in relation with this conscious center. That is the object of consciousness. Consciousness itself is *awareness of the object by the conscious self*. This awareness arises because of the relation which exists between them—the relation of subject and object. To say, as the writer referred to does, that the center of experience [or of consciousness] is a conscious-center and that each instance of consciousness is an instance of a kind, adds nothing to the strength of the claim that consciousness is a relation. Both statements are manifestly true, but I am unable to see in them the slightest ground for such an assertion. Consciousness is not a relation, but it comes into existence as the result of a relation, and relations exist among its contents. Instead of *being* a relation, it is *born of* a relation and it *contains* relations.

To call consciousness the relation of meaning[3] does not help the case. An appeal to experience shows that this relation is not at all what we understand by consciousness, but that we are conscious *of* meaning. Consciousness *of* meaning is a reality in experience; but so is consciousness of light. Consciousness itself, however, is neither of these things. It is not light, but awareness of light. It is not meaning, but awareness of meaning. Meaning is content of consciousness. There is an endless number of possible contents of consciousness, of which meaning is but one.

The difficulty here is far from being merely verbal.[4] The proposed change in the definition of consciousness from awareness to relation, of whatever kind, goes to the very heart of the matter. It ignores the real consciousness altogether. True, as this author intimates, we can not hold awareness responsible for the thing's qualities or for its temporal and spatial relations; but it is respon-

[1] *Op. cit.*, p. 163.

[2] It does not concern us here what the nature of the self may be, whether a substance, an energy, an activity, or what not. It is not *nothing*.

[3] F. J. E. Woodbridge, *Studies in Philosophy and Psychology*, p. 159.

[4] *Ibid.*, p. 161.

sible for the presence of the thing to me, for its having a subjective aspect, for my apprehension of its qualities and relations; and this is the vital point. The thing may exist with innumerable qualities and relations, and yet not exist for me. But the moment that I become aware of it, it does exist for me. Then I may know it, think of it, feel toward it; and that, too, without in the least affecting its qualities, its relations, or its meaning. This is what I understand by being conscious of a thing.

It is idle to try to take from consciousness the meaning of awareness, for that is the very essence of the conception. Even if we were to change the meaning of the word by applying it to a relation, the fact of awareness would still remain as the basal fact of mental life, and we should be forced to seek another name by which to designate it.

There are four types of consciousness. The first one consists of the processes of consciousness themselves. The second is a consciousness of these conscious processes, a consciousness of consciousness. I may not only feel, but at the same time my attention may be so directed upon the feeling that I take distinct note of it. I feel, and I am also conscious that I feel. Consciousness of the third type seems to extend beyond the mental processes to the objects that give rise to them. When I have a perception of sight, I seem to be immediately conscious of the object that I see. Indeed, the attention may be so completely absorbed in the object that, to the observer himself, it is the conspicuous, and even the exclusive, element. Finally, as the third type seems to reach forward beyond the forms of consciousness to their objects, the fourth type seems to reach backward from them to the subject, and there arises a consciousness of self as having those forms of consciousness.

Some have said that there is no such distinction as I have indicated between the first and second types. They maintain that to feel and to be conscious that we feel are the same. There is no such thing, they say, as feeling without knowing that we feel, or as thinking without knowing that we think. That the distinction really exists, however, will be evident to any one who will recall and critically examine his own experience. When

a person witnesses an exciting event, such as a railroad collision, his thoughts and feelings become intense; but their very intensity prevents him from giving any attention to the thoughts and feelings themselves. His mind is so concentrated on the scene before him that he wholly forgets that he either thinks or feels. The same thing happens when one is reading a deeply interesting book. One has vivid states of consciousness; but one is oblivious of them. For the time one is dead to everything except the scenes and ideas of the book.

Contrast with these forms of experience those which a man has when attempting, say, to answer a difficult or embarrassing question. In the latter case he not only has thoughts and feelings, but he is painfully conscious of them. He is distinctly aware that his thoughts are halting and futile and that his feelings are uncomfortable, if not distressing. Again, when one is engaged in the investigation of an intricate problem, one not only has the thoughts which constitute one's order of procedure, but one keeps watch of the course they take, examining and judging the successive steps as they occur, and often reviewing and approving or correcting one's own decisions. One observes and criticizes the processes of one's own mind.

Is it not obvious that the spectator of the railroad accident and the reader of the absorbing book thought and felt without being aware of it? Certain processes of consciousness were going on in their minds, but they had no separate consciousness of them. They were conscious *in* thinking and feeling but not *of* thinking and feeling. But the person under examination and the one trying to solve a difficult problem not only *had* mental processes, but *knew* that they had them. Our perceptions, memories, thoughts, feelings and volitions are primarily *processes* of consciousness, but often, and with some persons perhaps generally, they are also *objects* of consciousness. We are always and necessarily conscious *in* them, that is, in having them, and we may also be, and often are, conscious *of* them.

If I am not mistaken, this distinction is one of the differences between the consciousness of a person and that of a lower animal. An animal, I suppose, has only the first type of consciousness and

is incapable of the second. It has various forms of consciousness, but no consciousness that it has them. A person, on the other hand, although he may, and often does, remain unmindful of his own mental operations, is capable of being distinctly conscious of them, may become habitually attentive to them and even habitually critical of them. Hence comes the power of self-judgment and self-control.

The distinction which I have made between the third and fourth types of consciousness has also sometimes been questioned. It has been said that all consciousness is self-consciousness, that along with the object the subject is also given, that in every state of consciousness we are conscious of the self as having it. On the other hand, some psychologists deny the possibility of self-consciousness altogether.

It is certain that there is a 'self-quality' in all experience, even the most primary. Self is always present, whether consciously or not, and its presence necessarily imparts a distinctive character to the experience. It is like a condiment, which affects the taste of our food though we take no distinct notice of it. Experience is flavored through and through with a self-quality even when we do not recognize it. My experience is *mine* whether I recognize the relation or not. "The baby new to earth and sky has never thought that 'this is I';" yet such experience as he has is *his*, and all its meaning and value to him grow out of that fact.

But this self-quality is not what I mean by self-consciousness. It is rather a sign or prophecy of what may be. Self-consciousness is a *recognition* of self as being conscious. Even so, it is of many degrees. It may be an almost unobserved element, barely emerging into light and deeply overshadowed by the consciousness of the object. On the other hand, there are occasions on which the self becomes the dominant feature and the object falls into shadow; or, speaking more accurately, the self becomes the dominant object. Such occasions are many and various. Any unusual or critical experience may produce it. A deep and unfamiliar solitude sometimes awakens a strong self-consciousness. Reflection on one's actions as one's own gives rise to it. When one thinks of a past action as performed by oneself and as

fortunate or unfortunate, wise or unwise, right or wrong, one becomes distinctly, and sometimes acutely, conscious of oneself. One not only thinks of oneself as the author of the action, but one has feelings toward oneself on account of it, feelings of gratulation or of condemnation. If one contemplates the performance of an act in the future and considers its propriety or expediency, one thinks of oneself as its potential author and as potentially responsible for its consequences. All self-criticism, all self-direction, in brief, all reflective thought carries in it a consciousness of self. One is painfully self-conscious in times of failure and disappointment. One is agreeably self-conscious in the hour of success. This strange gift in us operates in still more intricate and subtle ways. Through intuition and habit it rises or falls, advances or recedes, brightens or darkens, as occasion varies, responding with instant certainty and precision to each demand in the routine of daily life. A headline in the morning paper, the ringing of the door bell, the utterance of a name, the sound of a footstep, may summon it into existence, each after its own peculiar kind and in its own particular measure. In conversation it follows the mutations of thought and sentiment with fluent and sinuous adaptation.

Experiences like these, which are familiar to every intelligent person, will serve to make clear what is meant by self-consciousness. A moment's reflection is sufficient to show that it is the most intimate of all the forms of consciousness. In perception there is ordinarily a manifest distinction present in consciousness between the subject and the object. The object appears as something entirely separate from us. In the consciousness of our own mental states the object is more immediate. These states seem to be within us, completely in our possession, and dependent on us for their existence. Yet we know them as something which is not ourselves. They are patients; we are agents. They are thought and felt; we think and feel them. They come and go; we abide. But in self-consciousness we are conscious, not of something distinct from us, but of ourselves. The subject and the object blend. The subject *is* the object.

"But," it may be urged, "does not this view of self-conscious-

ness, by obliterating the distinction between subject and object, annihilate the indispensable condition of all consciousness?" I answer, this view does not obliterate the distinction between subject and object. The distinction is maintained. The self fulfills both functions. It is subject and it is also object.

But is it not in the nature of the case impossible that a person should be conscious of himself? Might we not as well say that the eye can see itself or that a mirror can reflect itself?

> "Nor doth the eye itself
> That most pure spirit of sense, behold itself."
> *Troilus and Cressida*, III, 3.

> "Tell me, good Brutus, can you see your face?
> No, Cassius, for the eye sees not itself
> But by reflection by some other things."
> *Julius Cæsar*, I, 2.

But such analogies prove nothing as to the power of the self to be conscious of itself. We do not reason that because a stone can not bloom therefore a plant can not bloom; nor that because a plant can not walk therefore an animal can not walk; nor that because an animal can not speak therefore a child can not speak. Every kind of existing thing has some function that is peculiar to itself. It can do something that nothing else can do. Otherwise it would not be a separate kind of existence. If it were not different in any way whatever, it would be the same as something else,—not merely like it, but the same. Iron is different from everything else; otherwise it would not be iron. The difference—the qualities that are peculiar to it—are what make it iron. Self-motion is unique, and prior to experience would seem impossible, and so incredible. Yet every living animal is witness to the fact; for it does actually move itself. So the human mind has its peculiar characteristics, its points of difference from everything else; and one of them is self-consciousness. What is contradictory when affirmed of an eye or a mirror may not be at all contradictory when affirmed of a human self. For all that can be proved by eyes and mirrors, such a being may very well be conscious of itself, and the fact that self-consciousness is unique is no conclusive argument against its reality.

The difficulty raised here seems to be based on the assumption that the relation between subject and object is a spatial relation, and that they are brought together in consciousness as things are brought together in space. But this, of course, is a gross misconception. The realm of consciousness is not spatial. Its contents have no spatial qualities; and if we rid ourselves of the idea of space when we are considering the relation of subject and object, a chief obstacle to a belief in the possibility of self-consciousness will be removed.

A close and accurate analysis of experience reveals self-consciousness as not only a real but a conspicuous and most important factor. It is the middle voice of mental life. The self acts upon itself. It is both agent and patient, both subject and object.

William James explains self-consciousness as follows: "Each pulse of cognitive consciousness, each Thought, dies away and is replaced by another. The other, among the things that it knows, knows its own predecessor and . . . greets it, saying: 'Thou art *mine*, and part of the same self with me.' Each later Thought, knowing and including the Thoughts which went before, is the final receptacle—and, appropriating them, is the final owner—of all that they contain and own. Each Thought is thus born an owner, and dies owned, transmitting whatever it realized as its Self to its later proprietor. As Kant says, it is as if elastic balls were to have not only motion but knowledge of it, and a first ball were to transmit both its motion and its consciousness to a second, which took up both into *its* consciousness and passed them to a third, until the last ball held all that the other balls had held, and realized it as its own. It is this trick which the nascent thought has of immediately taking up the expiring thought and 'adopting' it, which is the foundation of the appropriation of most of the remoter constituents of the self. Who owns the last self owns the self before the last, for what possesses the possessor possesses also the possessed."[1]

Although James admits that this act of appropriation is obscure, he makes no attempt to explain it, but boldly assumes it. "One must *beg* memory, knowledge on the part of the feelings of

[1] *Psychology*, I, p. 339.

something outside of themselves."[2] "To get the awareness [*i. e.*, of the antecedent Thoughts] we must openly beg it by postulating a new feeling which has it. . . . I postulate the present passing Thought as a psychic integer, with its knowledge of so much that has gone before."[1] This is both frank and characteristic. James makes it plain that the 'Thought' itself, as well as the awareness, is begged. While begging so bravely, why not beg an agent of some sort, which can think, and so have enough to satisfy reason and common-sense and actual experience?

Again: if, as James says in this connection, "nothing can be known about a moment of consciousness till it is dead and gone,"[2] how can anything *ever* be known about it? Can that be remembered of which no note was taken when it occurred? If the awareness of self was not present in the experience itself, it is impossible that it should be present in the memory of that experience. Or, to speak after the manner of James, if nothing was known about the self by the foregoing Thought, it is impossible that anything should be known about it by the next Thought, for, according to the theory, this later Thought depends for its content on its predecessor. Did Professor James mean to emulate those idealistic philosophers whom he was so fond of ridiculing, by maintaining that facts can be evolved out of the inner consciousness? Memory can revive knowledge and reflection can recombine it; but neither of them can create it.

James's explanation of self-consciousness, then, is fatally defective. No part of it has any sound psychological basis. And, besides, this whole way of looking at the subject is directly in the face of his own teaching. Here he represents consciousness as broken up into minute parts. "Each Thought dies away and is replaced by another." "Each Thought is born an owner and dies owned." "It is as if elastic balls were to have not only motion but knowledge of it," etc. And yet in the same volume in which these statements occur he assures us that "within each personal consciousness thought is sensibly continuous."[3] "Consciousness does not appear to itself chopped up into bits. Such

[1] *Op. cit.*, p. 359.
[2] *Ibid.*, p. 359, n.
[3] *Ibid.*, p. 237.

words as 'chain' or 'train' do not describe it fitly as it presents itself in the first instance. It is nothing jointed; it flows."[1] "The things are discrete and discontinuous; they do pass before us in a train or chain, making often explosive appearances and rending each other in twain. But their comings and goings and contrasts no more break the flow of the thought than they break the time and the space in which they lie."[2] If this is the true account of consciousness, what becomes of those 'Thoughts' which pass their possessions along from one to another as they make their successive disappearances; each of which "is born an owner and dies owned, transmitting whatever it realized as its Self to its later proprietor"? The two accounts plainly contradict each other. According to the one, conscious experience is a series, a succession of distinct 'Thoughts'; according to the other, it is an uninterrupted stream, an unbroken continuum. According to the one it advances by steps; according to the other it flows.

The truth is that consciousness presents both of these aspects. James's error is that when he affirms one of them he denies the other. He recognizes both, but he recognizes them one at a time, and when he admits one of them he explicitly excludes the other. Both of them are real, and they are often real together. They may exist in the same experience at the same moment. As I sit in my library I hear a man driving nails. I hear the blows of the hammer on the nail in succession. Each interval between the blows is an instant in which I do not hear a blow. The sounds therefore do not pass into each other in my experience any more than the external blows themselves pass into each other. The series of successive sounds in my consciousness is a series as really as the series of blows. My actual experience is atomistic, granular, broken up into bits.

But, besides the two series of events, the objective and the subjective, there is present another aspect of experience. In it, all these separate items are held together as parts of one uninterrupted life. They are all parts of *my* life. I recognize them all

[1] *Op. cit.*, p. 239.

[2] *Ibid.*, p. 240. Also *A Pluralistic Universe*, pp. 285, 326.

in the unity of consciousness as entering into and helping to constitute that continuous stream which I know as my experience. This unifying and continuous element is fundamental and permanent. It belongs to what we know as the self, and binds in one the total experience of each individual person. Here is the stream with its unbroken flow. It is not a stream of conscious *phenomena*, of sensations or feelings or 'Thoughts,' but a stream of *consciousness*. The phenomena are distinct occurrences which appear *in* consciousness. They are separate, different, successive. They form a series. But the consciousness in which they appear *knows them together and unifies them into a single experience*. The stream of consciousness bears on its bosom ten thousand craft, of which many are related to one another by ties of association and many others are launched as independents by the casual events of the world without. But all of them are made parts of one and the same life by the unifying power of this all-embracing and ever-abiding consciousness.

James dismisses this fundamental and permanent element of experience as unnecessary to psychology, and hands over its functions to the phenomena of experience, to the series of 'Thoughts.' He would say that in the foregoing illustration the successive sensations of sound from the carpenter's hammer pass on the torch of consciousness from one to another, each succeeding one inheriting what belonged a moment before to its immediate predecessor; and that this transmission of content through the series constitutes the continuity of experience. But the plane of cleavage between self and the experience of which self is the subject can not be thus summarily obliterated. It belongs to conscious and therefore inexpungeable reality. Back of the series of sounds is the being that notes them as they occur and knows them as a series. This being is the self, and the series of sounds is the experience of the self.

"Such has been the error of those philosophers who have not been able to resign themselves to being only psychologists in psychology. . . . They look for the ego, and they claim to find it in psychical states, though this diversity of states has itself only been obtained by transporting oneself outside the ego alto-

gether, so as to make a series of sketches, notes and more or less symbolic and schematic diagrams. Thus, however much they place states side by side, . . . the ego always escapes them, so that they end by seeing nothing in it but a vain phantom."[1]

It is said that "all self-consciousness implies a division of the total self. When I think about myself, the I and the myself are never quite identical. The self of which I have an idea is always distinguished from the self which has the idea."[2] This use of the term self, though so common among psychologists, is unfortunate and misleading. 'The subjective self,' 'the objective self,' 'the material self,' 'the social self,' 'the spiritual self,' and so on, are but aspects of one and the same self. Each person is one self, and only one. I am at once the self of which I have an idea and the self which has the idea; and when I think of myself, the I and the myself are identical. In self-consciousness I am simply myself having a peculiar but very frequent kind of experience, a kind of experience in which I am object to myself. The identity of my self is not affected by this or any other kind of experience. I am the same I in all conditions and through all experiences. The self is not constituted by experience, but is the abiding subject of experience. It *is* not experience; it *has* experience; and one form of the experience which it has is self-consciousness, in which, as I have tried to show, subject and object are exactly identical.

James Ward denies the possibility of self-consciousness in this strict sense. "Do I not know myself? Certainly not; agent and patient are never the same in the same act."[3] A little further on he says, "It is really a very serious misnomer to speak of the development of self-consciousness as 'a differentiation of subject and object.' It is, if anything, a differentiation of object and object, *i. e.*, in plainer words, it is a differentiation among presentations." He adds, however, that "every step of this differentiation implies just that relation to a subject which it is supposed to supersede," and that it is hopeless to attempt, "by means of phrases such as consciousness and the unity of con-

[1] Bergson, *An Introduction to Metaphysics* (Hulme's Translation), pp. 31–32.

[2] Stout, *Manual of Psychology*, p. 527.

[3] *Encyclopedia Britannica*, 11th edition, XXII, p. 550, c. 2.

sciousness, to dispense with the recognition of a conscious subject."

If I understand Dr. Ward, he holds that in self-consciousness the self as subject and the self as object are together the experience of the real conscious self. The differentiation is a fact in the experience and is therefore objective, while the self which has this experience is the true subject. This interpretation is much more consistent and satisfactory than that of James. But when Dr. Ward denies that I know myself, and that agent and patient can ever be the same in the same act, and thus makes the self experienced a different self from the one which has the experience, he commits, as I believe, a radical error. My contention is that there is but one self involved and that this same self is both subject and object. It knows itself. There are not three selves present—a subject self, an object self, and 'a conscious self' which experiences the other two. There is but one self, and it is conscious of *itself;* but conscious of itself as having a double experience simultaneously,—an experience as the subject experiencing and an experience as the object experienced, as the subject knowing and as the object known. If it be insisted that in order to become conscious of myself knowing, the self which I know must become an object self, the answer is that this objectivity is only an aspect of experience. It does not change the identity of the self or destroy the subjective aspect of the experience, which is present at the same time with the objective aspect. In self-consciousness I am both subject and object, and *I am conscious of myself as being both; and yet in the unity of my consciousness I am one undivided and indivisible self.*

Are we not reduced to the necessity of accepting the term self-consciousness in its natural and obvious meaning? It is just the consciousness of self, no more, no less,—a simple, immediate, indubitable experience. I am conscious of myself as being object, and at the same time I am conscious of myself as being subject. This is the peculiarity of self-consciousness, its distinguishing characteristic. Mystery, no doubt, it is; but it is also a fact to which every mature human experience bears incontestable witness. No book or teacher can communicate a knowledge of it. No

laboratory method can thread the maze to its hidden seat. We can learn that it is and what it is only by coming face to face with the penetralia of the inner life; that is, *by becoming self-conscious* and noting immediately, clearly, truly, the naked fact. Then we shall know the possibility of it, because it has entered into our own experience, and we can say, "We speak that which we know and bear witness of that which we have seen."

If my view is correct, it is clear that self-consciousness is true immediacy. It is not outside observation. It does not see from without nor through media. It sees from within and it sees directly. And yet neither is it mere inside observation. Of mental processes consciousness is inside observation, and of these the self has immediate knowledge; but the self knows them as phenomena and distinguishes them from itself as clearly as it does the phenomena of external nature. It is conscious of them as something experienced. But it is conscious of itself, not only as something experienced, but also as something experiencing, that is, as a subject *having* experiences. If one will get the full meaning of this distinction, one will have the most illuminating conception, perhaps, that can be formed of the nature of self-consciousness.[1]

It is agreed on all sides that consciousness is the ultimate seat of authority. Our final guarantee of any knowledge is the assurance of our consciousness, that is, the trustworthiness of experience itself. All other evidence rests at last on that of consciousness. It is our light and guide. If we will not trust it, we are at sea without sun or star. But we do trust it instinctively. To refuse would be absurdity, insanity. The refusal would cancel itself, for it must rest on conscious evidence and would therefore imply that consciousness both exists and is trusted. What we are conscious of we know with absolute certainty. We may indeed misinterpret it and we may draw false inferences from it. But as to the facts which consciousness attests it is impossible to be mistaken. They are matters of immediate experience, and such experience is indubitable.

[1] W. R. Boyce Gibson, *Personal Idealism*, p. 171, and *Proceedings of the Aristotelian Society*, N. S., V, 1904–05, pp. 38 ff.

Now self-consciousness, having the same character of immediacy, possesses the same final authority, and, in attesting the existence of the self, puts on it the seal of undeniable reality. "Whatever else I doubt," said the great Augustine, "I can not doubt that I doubt. I can not doubt that the doubting is real. *Neither can I doubt that it is I that doubt.*" Here we reach a barrier which the boldest scepticism may assault but can never pass.

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## PRAGMATISM vs. DUALISM.

THE primary danger in philosophical controversy lies in the very considerable uncertainty whether the disputants are talking about the same things. Such a danger has been notably apparent in connection with the literature centering about pragmatism. The pragmatist for his part is practically never willing to allow that his critic has understood him, and accordingly finds all objections beside the mark. And there is always of course the other possibility, that he has himself not understood the critic's objections. The most favorable judgment would hardly contend that pragmatists have been conspicuous for a sympathetic endeavor to enter into their opponents' state of mind; rather the disposition has been to keep placidly within their own particular universe of discourse, and discount all attacks on its sufficiency as a survival of superstitious and non-scientific habits of mind, which lead only to unreal and artificial problems that no longer ought to concern the up-to-date thinker. But this suggests two alternative explanations of the failure of the pragmatist to be satisfied with critical interpretations of his position. It is possible that the critic really does not see what he is driving at. But it also is entirely conceivable that the trouble may come, not from a failure to understand the pragmatist's definitions of his terms, but from an inability to regard these definitions as satisfactory. "The retort," Professor Dewey writes in a recent controversy, "that the smoke is not a 'conscious datum,' while sensations and cerebral events are conscious data, is not a reply, but a repetition of the same ignoring of the position. For the position herein recapitulated holds that to call anything 'conscious' is simply to say that it figures within the inferential or evidential function."[1] Now the question whether the pragmatist moves within a self-consistent circle of ideas is an interesting and important one; but for other philosophers it does not supplant the more ultimate inquiry as to whether the definitions

[1] *Journal of Philosophy*, XIV, p. 493.

on which his system rests really take account of all the facts that ought to be recognized. And it is clear that the passage quoted above would not be a sufficient rejoinder if it meant to say this, that an objection to the pragmatic standpoint is negligible if it involves a different notion of consciousness from that which the pragmatist thinks the proper one. The real point is not whether pragmatism is able to avoid contradiction when you grant its premises, but whether these premises are something that you ought to grant. It makes a good deal of difference in the end whether a rejection of problems is due simply to a temperamental lack of curiosity along certain lines, or whether it can indeed be shown that no real facts exist to call forth legitimate curiosity in any one. And by facts, I may remark, I mean things that men in general actually have found reason to believe; I do not accept the right of the pragmatist to hang up the distinction till he has been allowed to interpret 'facts' as his own peculiar system demands.

I shall in the present article spend most of my time in considering certain terms as pragmatism uses them, and in attempting to show that there are alternative meanings which are not obviously either absurd or artificial. In this I shall speak for no philosophical school, but only for myself; and the position which I shall adopt is that of common-sense dualism, with its familiar distinction between 'consciousness' and the outer world. If the ambiguities can be removed which create the illusion that the contending parties have actually met on common ground, and the dualist been refuted, then the real issue can be considered on its merits—whether, namely, the pragmatic simplification of the philosophic problem is a real simplification, or whether it is a spurious simplification due to a resolute refusal to see something that analysis shows actually to be there. Next I shall remind the reader of one in particular of the fundamental difficulties which critics have frequently thought they found in the pragmatist's position. And, finally, I shall point out, without much argument, two different and not obviously consistent lines which Professor Dewey takes, by identifying which he professes to have met this difficulty, though in reality, as I shall interpret it, he has only evaded the recognition that it has not been squarely faced.

There are three concepts in particular whose meaning needs to be very clearly stated. First is knowledge. Now by knowledge Professor Dewey always means the active process of solving problems, meeting situations, thinking out plans of action. And in the analysis of this there is much that the dualist would have no trouble in accepting. He finds, however, that there is another recognized form that knowledge takes—and it is with this alone that his 'dualism' is concerned—which raises an entirely different set of queries. I am, we will say, engaged in eating my dinner. Now this, we are told, is not knowing at all; it is experiencing, or enjoying, or acting—a purely natural event with no epistemological status. And of course if knowledge is defined beforehand as the active process of 'thinking' or judging, there is nothing to reply to this; by hypothesis it is not knowing, but doing. Something now comes up to make me pause. I am asked how I will take my coffee, and I have to 'stop to think' before I answer. Immediately the elements of the dinner situation enter on a new phase. What before was just a 'thing,' becomes now a starting point for inference; by suggesting or standing for some further experience to come it serves to guide and redirect my activity; and thereby for the first time it becomes a 'conscious' fact, and knowledge is born. And then, the choice once made, again the process undergoes a change; knowledge lapses, and action is resumed.

But now there is a further possibility of experience that we might add to this account. It is quite on the cards that, after settling the matter, I should stop a moment and contemplate, or realize concretely 'in my mind,' the object of the finished judgment. This to be sure is not 'thinking,' in the sense that it is a process of inferential discovery, or of passing to a novel outcome. But neither is it acting. And it is this contemplative reference—to every one except the pragmatist still a 'mental' experience—that the dualist has in mind when he speaks of knowledge and its object. He is thinking of the outcome, capable of being held in solution before the mind, and not the creative activity or process. Doubtless there will be some motive—of enjoyment or of practical utility—to cause me thus to dwell upon the result of the

completed judgment. But the motive is easily to be distinguished from the act of contemplative reference to which it leads; and the peculiarity of the experience is not altered by the fact that there is some reason for its existence. And we are not to be put off, either, by a refusal to *call* this knowledge, or by a disparaging estimate of its practical importance as compared with the more active work of 'thinking.' The fact remains that it is a perfectly distinctive sort of experience to which the term knowing has always been applied, and that it carries certain implications in which philosophers, and human beings generally, have taken a large amount of interest in the past. And now having recognized this possibility, we can find the same essential fact implicit also in the previous stages. While I am engaged in thinking, with the problem still in process of solution, the data which I am utilizing come before me in the same fashion in the form at least of momentary contemplation. Even in the original act of eating the case is not fundamentally different. "If anybody will condescend to a concrete experience," Professor Dewey writes, "he will perceive how often a man eats *without* thinking; that he puts into his mouth what is set before him from habit as an infant does from instinct. . . . He has acted; he has behaved toward something as food; that is only to say that he has put it in his mouth and swallowed it instead of spewing it forth."[1] But if one will condescend still further to a concrete experience, it seems to me plain that the situation is not quite so simple as this. We sometimes do eat literally without knowing that we are eating, absorbed not in the act, but in thoughts of something else. But the fact that we distinguish this as in the special sense a case of eating 'mechanically,' or without being aware of what we are doing, shows that normally in the act of eating there is something more than bare action. It is, as we quite naturally may put it, eating *consciously*, not mechanically. This does not mean that we constantly have to interrupt the act in order to overcome difficulties. Professor Dewey's phrase, to 'eat without thinking,' is ambiguous. It *ought* to refer only to the absence of this last necessity. But it gets the right to translate itself into a purely physical act,

[1] *Essays in Experimental Logic*, p. 355.

as the sole alternative to 'conscious' eating, only as 'thinking' is made to cover also the quite different case in which, though we do not 'stop to think,' we have a *realizing sense* of the nature of our act. And the fact that we may call this eating consciously, with a knowledge or awareness of what we are about, as opposed to eating mechanically and unconsciously, is enough to indicate that 'knowledge' has a natural meaning which Professor Dewey's definition ignores. And this 'realization' does not merely involve a blank sense of enjoyment either, but has an intelligible character as well, in which the distinctive features of the situation, such as we *might* stop to think about mediately, are before us in a luminous whole which has no tendency to interfere with action. It goes without saying that also it is something more than eating with complete *effectiveness*, in the purely biological sense.

In insisting, then, that knowledge should always be taken in the sole sense of active thinking, or problem solving, the pragmatist has to exclude another and perfectly natural sense of the term, in at least equally common use. And as I remarked before, when we take seriously this contemplative and static reference to objects, as opposed to the use we may then go on to make of our knowledge in new and constructive judgments, I quite fail to see how, except by an arbitrary narrowing of our interest, we get the right to set aside as meaningless the sort of problem that 'epistemology' traditionally has found there. For, in the first place, it appears to me a pure perversion of our ordinary belief to find in this 'thought of an object' a reference simply to a *future* experience. Granting that the significance or value to us of objects of knowledge lies in their relationship to future conduct—to which, when cautiously interpreted, I make no objection whatever,—I submit that when I hold before my mind the thought of an article of food, I do not naturally find myself meaning *simply* that a present experience is the sign of a definite experience to come, so that by taking it as a cue this last can be brought about; but I mean also that the food is an actual contemporaneous existent with a status of its own outside the organic situation, a thing possessing independent causal efficacy, to which, and not simply to a future possibility, the present thought or experience

stands opposed as a second fact or entity; and that the food gets its power of affecting the future only because of its substantial quality, and its permanent and independent status. And then the dualistic problem of knowledge is at once on our hands. And it is certainly no sufficient ground for setting aside this belief that, by denying any sense to 'knowledge' except that of an inferential function, we should be making the philosopher's job so very much easier, in that we render it unnecessary for him to find an answer to certain difficult problems.

However I do not suppose that, while it seems clear enough to me, the pragmatist will accept this analysis of the common belief.[1] But after all the same problem emerges even when he is allowed to substitute his own analysis, in terms of the relation of the present thought to a *future* experience. For I think it must certainly be admitted that the future consequence is not, at the moment when it is still future, 'experienced' in any very precise sense of the term. And Professor Dewey's somewhat cavalier way of meeting this difficulty is a good example of the possibilities of juggling to which, as I shall call attention presently, the concept of experience lends itself. Both things, he says, 'are present, but both are not present in the same way. In fact, one is present as-*not*-present-in-the-same-way-in-which-the-other-is.' And he urges us not to balk at a purely verbal difficulty.[2] But I should equally urge that we do not rest satisfied with a purely verbal solution. Practically Professor Dewey rests the case on an appeal to the fact that things can in some sense be thought as absent. Of course they can; and dualism attempts to show *how* this is possible, by making a distinction. It says, that is, that while future events are absent in the body, they are present in the spirit as *re*presented or anticipated in a present *idea*. Professor Dewey apparently makes some use of the same distinction, though he cannot avow it. For when he comes to explain, 'present-as-absent' turns without warning into '*presented* as

[1] For the reason, I take it, that he refuses to concern himself here with anything except the logical analysis of the judging process. As playing a part in judgment, the object *is* primarily a cue for inference, and its ontological status is ignored because it can ordinarily be taken for granted. But it does not follow that in other situations we may not be vitally interested in the question of its independent reality.

[2] *Influence of Darwin*, p. 88.

absent.' If this means, not there bodily, but still thought about or looked forward to (*how*, one may enquire, unless somehow represented by what *is* there?), it is everything that dualism contends for in principle; if it does *not* mean this, I fail to see that it has any meaning at all. We simply have a paradox treated as a self-evident truth. Of course if the pragmatist is allowed to maintain—and unless he means this his reply is irrelevant—that being present in *any* sense,—*e.g.*, present to 'thought'—is being 'experienced' in the pragmatist's sense, he has, verbally speaking, his opponent helpless. But so far as I can see, this makes meaningless his assertion of the reality of time. If the future experience when it comes has not a being and substantial quality which it does not have when anticipated, and which while we are still aware of looking forward to it must somehow be represented by a present substitute if we are ever to be able to talk about it *as* future at all—talk, that is, about the realized fact which is *not* present—there seems no reason why we should not rest satisfied with the anticipation instead of going on to its fulfilment. Nor is the mere fact of 'dissatisfaction' enough to differentiate the two ways of 'being present,' as Professor Dewey would seem to suggest. Surely we find no trouble in distinguishing a blind sense of uneasiness, or unpleasant feeling—which alone is characterized by Professor Dewey's phrase 'an unsatisfactory mode of presence'—from the 'something not there' *of* which we have an 'idea,' even though this idea may also be attended by the feeling of discontent. The only other meaning I can suggest for the expression 'present as absent' is this, that a scientific *observer* might, by waiting on the event, see that the act *was* actually on the way to this outcome, and so speak of the latter *as if* anticipated. But this does no more than identify a particular connection—causal it may be—in the world of things, and covers not at all what we all mean by conscious anticipation; the difference is that between the animal whose instinct is set off for the first time by a stimulus to a totally unlooked-for consequence, and the intelligent being for whom the outcome is no surprise, because it was 'in his mind' from the start. The point is emphasized by the halting and somewhat cryptic utterances[1] of

[1] *Cf. Essays*, p. 10.

Professor Dewey when he is trying to convey a notion of the kind of experience which by definition is not and cannot be 'known,'—the process of experience, namely, when it is flowing smoothly, and is not in need of reconstruction. If this turns into something different the moment it becomes knowledge, *and if the philosopher can only talk about it in a knowing experience*, it is not strange that trouble is found in describing it consistently. The fact remains, however, that Professor Dewey constantly presupposes it as a background, and calls upon his readers, under penalty of failing to understand him, to recognize (or know) what its nature is as *not* known.[1]

The same illusory sort of solution, it may be added, is given to the problem of past existence. "There is nothing in the text," Professor Dewey writes, "that denies the existence of things temporally prior to human experiencing of them;" but it immediately transpires that by this he means something quite different from his critics, namely, that we "experience most things *as* temporally prior to our experiencing of them."[2] In other words, the fact which to philosophers generally has been supposed to call for a more exact analysis, and an explanation, is by Professor Dewey put forward as itself a sufficient answer to the question to which it gives occasion. The point at issue is not whether there is such a thing as a present experience carrying a reference to the past, but what this makes it necessary for us to believe about the relation of such present experiencing to the actual past event, in so far as this latter is confessedly not now experienced *in the same sense* of the term. To cover this up by reiterating the ambiguous statement with its ambiguity unresolved and even em-

[1] Professor Dewey's theory seems to me to pass the bounds of paradox when he translates the anticipation of the future into the existence of present 'intra-organic events.' It is of course true that any physical process, intra-organic or not, may lead up to and pass into a later process. But to express this causal relationship to the future in the form of a statement that the nervous activity *is* an inchoate *future* cosmic object (*Essays*, p. 228), as if the existential difference between the present and the future were thus bridged, only brings the contradiction into plainer view. And in any case to reduce thought and inference to hypothetical nerve processes is to throw overboard not only everything that common sense means by the words, but apparently also the standpoint of 'experience.' But of this more later.

[2] *Influence of Darwin*, p. 240.

phasized, is not, I submit, quite a fair way of dealing with an honest difficulty.

The second ambiguous concept to be noted is consciousness. This deserves a much fuller examination than I can give it here; and in the absence of this I have to speak more or less dogmatically. But it is at least pertinent to observe that when the dualist talks of an entity as belonging to 'consciousness,' or to the 'psychical,' or to the 'inner' life of the self, he intends it in a sense to which Professor Dewey's strictures do not directly apply. For the latter, consciousness is solely a 'knowledge' term. A fact is conscious only as it is explicitly used to mean or suggest some future fact. Thus a sensation or percept is by itself never a fact of consciousness; it is a thing, an event, a purely objective process. And I again agree that in a certain interpretation this is so. An odor may, for example, intelligibly be said simply to *be*, on my own as well as on Professor Dewey's definition of knowledge. I become 'conscious' of it, or know it in the stricter sense, only as it ceases to function directly in experience, and I direct my attention expressly to its nature or existence. And directing attention involves necessarily a further background or context against which the odor now for the first time stands out as something known. In this narrower and perhaps exacter sense we certainly cannot speak of a sensation as 'conscious of itself.' It does not break up into two parts, one of which knows the other. But while this is so, in another sense it is not meaningless to hold that a bit of experience has a quality of 'awareness,' and that this constitutes its being as a 'conscious' fact. But consciousness thus interpreted is not an epistemological, but an ontological term. The difference is that between having a conscious feeling, and being conscious *that* we have a feeling; between being conscious, and being conscious *of*. I am willing to entertain a doubt whether it is altogether desirable to use the *word* consciousness in this double sense, but the use is neither new nor arbitrary; it is what commonly the traditional psychology had in mind when it talked of states of consciousness, mind stuff, psychical facts or elements. It did not suppose that such a 'state of consciousness' is split into a knower and something known; no 'knower' is at all

implied. It simply meant that the existential nature of the fact possessed an immediacy, a direct and luminous and permeating quality of 'feltness,' a status as a bit of stuff marked not only by this or that quality in particular—redness or sourness or the like,—but by a quality brought home immediately to what we call psychological experience, and seen, when we come to look back upon it in its continuity, and in the stricter sense to 'know' it, to constitute the very being of the flow of inner life which makes up our concrete selves. I take it that at bottom this does not differ from what James came to mean by 'pure experience,' the word experience carrying with it the same reference to immediate felt being; or even, perhaps, from what Professor Dewey means by a 'thing.' But there seems some point in adhering to the older usage just because, for one thing, 'state of consciousness' calls attention to the 'stuff' or 'ontological' aspect which it presents, and so enables us to distinguish the facts of the inner life from the processes of physical science. For the real point at issue is, whether this stream of 'immediacy' constitutes the world, or whether it is, as traditionally it has been taken to be, a new sort of fact *in* the world, superimposed upon the biological fact, and constituting the 'inner' life history of a conscious being, —a claim which is not disposed of by manipulating terms and definitions.[1]

[1] Professor Dewey, who is a specialist in the use of subtly disparaging terms, calls this new sort of fact 'non-natural'; and the implication is that it is a supernaturalistic and superstitious survival of pre-scientific days. What he really means is that it is 'non-physical'; and the acceptance of the doctrine that all reality is physical is surely not yet to be regarded as a test of rationality. Of course consciousness is a 'natural' fact in the more inclusive sense that it depends upon, and stands in intelligible functional relationships to, the world of physical fact and law. Notice again Professor Dewey's invidious assumption that a 'non-natural' (psychical) view of the self makes of it a purely otiose spectator of the world's happenings; and that an entanglement with this 'spectator' ideal is the source of the critic's inability to accept pragmatism. With the larger contention that knowledge is for use, and that it looks to the active creation of more adequate ideals rather than to the contemplation of eternal good, I am in full agreement; but I seem to find no difficulty in holding this in conjunction with the 'spectator' point of view. A man does not ultimately find the value of knowing a machine in the satisfaction of pure intellectual curiosity; but neither does he have otherwise to be only a step in the machine's own evolution. We constantly take for granted that the mechanician stands apart from his machine as a 'knower,' even though he also puts the knowledge to good use.

And now, finally, this gives the only sense in which I am able to convey any account to myself of the third ambiguous concept, 'experience,'—that highly dubious term which plays so large a rôle in recent philosophy, and especially in pragmatism. As I see it, the term experience is an inevitable source of obscurantism if we elect to apply it to everything alike. The word is fundamentally a psychological term, which came into being only when attention was directed away from things *an sich* to the human way of realizing things; and it cannot profitably be denuded of its psychological connotation. Loosely, in common speech, the word may be used to cover anything that in any sense we are brought into immediate contact with; but if there is occasion we respond also to a more careful use of language. We say unhesitatingly that we experience the eating or the taste of an apple, whereas if we stop to discriminate we shall probably hesitate over 'experiencing' the apple, without explanation, though the apple will easily be accepted as an 'object of experience.' I think that if we use either phrase, what we should mean would clearly be that we know the apple *through* experience; the apple itself however is not *an* experience in the same sense that the eating of it—or the perception of it—is. It follows that if there *are* such things as the dualist claims—and we can scarcely rule this out arbitrarily at the start,—things that exist independently of experience, though the *knowledge* of them may be a part of the experience of this or that individual subject, we shall already have prejudged the claim if we begin with experience as our ultimate category. Since language justifies the loose identification of 'experiencing' a reality with 'knowing' a—possibly independent—reality *through* experience (as distinct from getting at it through imagination or guess work or hearsay), we have the stage set for a very pretty evasion of the issue. We have only to use words in the broader way (which includes possible independents) when we want to gain the suffrage of common sense, while shifting to the more exact psychological interpretation (*excluding* independence) when we are concerned with enforcing our immediatist conclusions. It is only necessary to displace 'experience' by 'reality'—a perfectly fair substitute if the prag-

matist's thesis is correct,—to see the importance of the rôle which the word plays. Presumably no one would suppose that he was giving any philosophical account of the universe by saying that reality alone is real, or that everything is reality. The existence of reals starts the philosophical problem, but it does not settle it; philosophy consists in trying to find out how these realities are to be interpreted and understood (in order, I have no objection to adding, that we may know how to conduct ourselves toward them). To substitute now experience for reality is indeed to tell us something, *if* experience means a particular sort of—psychological—reality into which other supposed reals can be translated; if, on the contrary, experience is not one specific kind of real among others, but only a synonym for 'the real,' it tells us nothing at all.[1] Or, in terms of the more immediate issue, it is an obvious begging of the question to say that there is no reality beyond experience since reality *is* experience. If by experience we mean a special kind of psychological fact in the real world, common sense says unhesitatingly that there are many realities beyond experience. If experience means reality and nothing more, let us *call* it reality, and then our philosophical results are all still to be achieved; and any word that creates the illusion that this is not so had better be avoided.

It is this situation which has given rise to a familiar line of attack upon the pragmatist's position,—that it is really subjectivism in disguise. The critic has often had great difficulty in seeing how to avoid accepting one of the two alternatives: either

[1] If Professor Dewey should reply that he is not interested in an account of 'reality,' which is one of the problems that the instructed philosopher has left behind him, I frankly do not know how to answer. I can only go by actions, not by words; and if the pragmatist's theoretical account of 'experience' does not profess to tell us what he conceives 'reality' to be like, I despair of pinning him down to anything whatever. I can conceive that a man should be primarily interested only in the practical consequences which things hold for him, and not in their nature otherwise; but how one can turn this into a *philosophy* without implying a measure at least of knowledge about the general character of the real, I cannot in the least understand. I am, I may add, no better able to understand why the repudiation of any curiosity about the *nature of the world* in which we have to live, in favor of an exclusive concern with what is going to happen to us in the future, should be calculated to excite, as it seems to do in so many minds at the present day, a proud sense of superiority, and a conviction that the philosophical millennium is about to dawn.

by experience pragmatism means the real world, and then it says nothing whatever; or else it means psychological experience, and is by its own confession subjectivistic.[1] And as it naturally has been assumed that it did mean something in particular, the last alternative has frequently been adopted. And in this the critic has been strengthened by the fact that the distinctive doctrines of the school involve precisely what he has been accustomed to call an analysis of the stream of conscious experience, identified by philosophers traditionally with the inner life of an individual. Indeed they are often spoken of as constituting a new or 'functional' psychology; and for minds trained in English traditions, it is puzzling to be called upon suddenly to erase the difference between a psychological, and an ultimate philosophical vocabulary. And for some time about the only reply elicited by the critic's doubts took the form of a rather impatient expression of surprise that he should be checking philosophic progress by raising captious objections, along with an offhand reference to the supposedly settled doctrine of experience as 'social'—itself one of the very most ambiguous and question-begging formulas that modern ingenuity has devised. But apparently the leaven has been at work; and in the later developments of Professor Dewey's thought, in particular, we find the difficulty met unostentatiously by a new account of experience; at any rate it is an account which I am incapable of identifying—or of reconciling—with the classical doctrines of the school.

The common denominator in the two accounts is the conception of 'activity.' Hitherto activity has represented, apparently, a certain teleological structure of experience in its more immediate and specific sense. It is this which gives its meaning to the fundamental doctrine that reality is what it is *experienced as*. Take what ordinary people have been accustomed to regard as a more or less connected flow of conscious experience, constituting in the psychological sense an individual person's life; one can, ignoring anything else in the way of existence, still give meaning

[1] Of course, what the *critic* means by subjective. It is, once more, no real answer for the pragmatist to say that experience is not subjective because it is not what he—the pragmatist—means by subjective, the word having been narrowed to stand only for *certain* experiences.

in terms of this to the pragmatist's analysis. Here is present a constantly shifting world of things. These things are just what they are at the moment for experience, no more and no less. Taking a cross section, we find a group of 'objects' unified by their relation to a specific 'activity' or end. To use the previous illustration, I am eating my dinner. Chair, table, dishes, food, are present in various degrees of definiteness as elements in the experience functioning; anything else is for the purpose non-existent. The reals that do function here, moreover, have only that measure of reality that we find represented in the 'human' world as evolved up to date; the qualities are limited to such as past human experience has created, embodied on the active side in habits. An occasion now arises for reconstruction, and a knowing experience intervenes. Since reality is only for experience, the reconstructed object is, as the pragmatist is fond of affirming, a growth not in our *ideas* of reality; it is the object itself that changes, becoming capable thus of new functional utilities. Through a more careful analysis, we come to know more accurately what future experiences it really portends, and thus enlarge our control over the world. And this new analysis is not an account of what the object was before the analysis was made. It is what the object itself turns into; it is the object transformed to meet the new requirements of the situation. Thus knowledge is made definable not as the process of our growing acquaintance with a world existentially there with qualities to be discovered and utilized, but as the process by which the object itself grows and recreates itself; dualism of reality, and experience or knowledge, is avoided; and truth and error, instead of involving the idea of a correspondence between thought and thing, stand for nothing but the issue, successful or otherwise, of the adjusting process.

But now the stubborn advocate of common sense returns again to his charge; what about the 'real' world, with its vastly wider reach of contemporaneous fact, and its own evolutionary process, in most part wholly antecedent to, and descriptively never coincident with, the evolution of the world as embodied in human experience so far as this has gone,—the evolution of the solar

system, say, as against the evolution of human activities in their relation, practical and theoretical, *to* the solar system? Common sense here might be too contemptible for the philosopher to heed; but science is another matter, and demands to be taken into account. And here comes in the new way—I speak subject to correction—in which Professor Dewey proposes finally to escape subjectivism, and satisfy science. And it consists in abandoning the psychology which has furnished him so far with his apparatus, and in adopting a thoroughgoing 'scientific' behaviorism. From the start he has been ready to define activity literally in terms of bodily acts, such as eating, walking, and the like; but the context nevertheless has been a psychological one, including only that part of the world of objects actually *experienced as* functioning in human conduct—the content of the perceptual field, plus such added content, implied in 'habit,' as thought and memory bring up when the reconstructing knowledge process occurs. A main point in his contention has been that 'reality' has no transcendent content beyond this to complicate the theory of knowing; and hence, once more, the protest from the non-pragmatist, who, convinced that reality is really much wider, has refused to define knowledge in a way to make this conviction meaningless. But now there is another context which may be given to 'activity.' This is the context, not of what things are 'experienced as,' but of scientific biology.[1] But between this context and the other there is, from the standpoint of consistent identity, a fundamental discrepancy. The world of organism and environment is no longer the limited world of 'experience,' it is the total universe of science; and while only a part of this world needs to be appealed to for explaining any given act of the organism, it is all assumed to be there ready to function if needed, and not to be created by the functioning. But this is precisely the transcendent world which the dualist assumes has meaning apart from its entrance into organic situations;[2] and which as

[1] *Cf. Creative Intelligence*, p. 36.

[2] When he is speaking most exactly, Professor Dewey appears to define experience as the scientific fact of biological adjustment; (*Creative Intelligence*, p. 37; *Influence of Darwin*, p. 157; *Essays*, p. 7) and he gives this as a reason for the refusal to substitute some more inclusive term such as 'reality.' But when one has

such can be known. And the problem of what is involved in our ability to talk about and know it fails to bother Professor Dewey only because, in taking the scientific or biological point of view, he is leaving questions of epistemology on one side, and assuming —as the *scientist* has a right to do—a field of knowledge or known objects, without asking what is meant by its 'being known,' though such knowledge is necessarily assumed when it is made a term in philosophic discourse. With a world of already existing things and organisms to fall back on, we have now indeed no longer that mysterious creation of objects out of nothing due to the exigencies of 'experience.' But neither are we within the range of considerations with which pragmatism has hitherto made us familiar. Not only is the outlying and ready-waiting world not—except in small parts on certain special occasions—an experienced world; even the organism, as science looks upon it, is not ordinarily 'experienced.' The genuine world of 'experience' to which concretely Professor Dewey's theory has related, is a very different world from this. It is vaguely bounded, incomplete in detail, represented equally in the most precise experience of the scientist, and in the befogged and confused world of him who rises quickly from sleep in a pitch dark room; this "vagueness, this doubtfulness, this confusion, is the thing experienced, and, *qua* real, is as 'good' a reality as the self-luminous vision of an Absolute."[1] But now again, it is only by

left the psychological realm for that of physical science it is wholly arbitrary to stop with organic action as alone ultimately real. Biology for the scientist—as opposed to a metaphysical interpreter of science—is not the ultimate science plainly, but presupposes a whole universe of reality capable of being described in non-biological terms. If one is going to appeal to scientific prejudices to recommend one's doctrine, one has no right to stop short of the full accepted scientific belief.

[1] *Influence of Darwin*, p. 236. "Another trait of every *res* is that it has focus and context: brilliancy and obscurity, conspicuousness or apparency, and concealment or reserve, with a constant movement of redistribution. . . . 'Consciousness,' in other words, is only a very small and shifting portion of experience. The scope and content of the focused apparency have immediate dynamic connections with portions of experience not at the time obvious. The word which I have just written is momentarily focal; around it there shade off into vagueness my typewriter, the desk, the room, the building, the campus, the town, and so on. *In* the experience, and in it in such a way as to *qualify* even what is shiningly apparent, are all the physical features of the environment extending out into space no one can say how far, and all the habits and interests extending backward and forward in time, of the

presupposing the other and scientific world that the charge of subjectivism is really met. So long as 'biology' is suggested, and the reader carries in his mind the whole existing universe in which the biological fact is set, and of which both science and common sense are fully assured, he will be willing to discount the charge of psychologism. But then 'experience' has turned into 'behaviorism,' in its most naïve and dogmatic form. All that we have left is a physical structure performing certain self-conserving and environment-modifying actions of a literally physical sort, modified in various ways by past actions, and capable of new modifications as its career proceeds.[1] If this is the final

organism which uses the typewriter and which notes the written form of the word only as temporary focus in a vast and changing scene. I shall not dwell upon the import of this fact in its critical bearings upon theories of experience which have been current. I shall only point out that when the word 'experience' is employed in the text it means just such an immense and operative world of diverse and interacting elements." (*Essays*, p. 6.)

This passage seems to me to involve an almost inextricable confusion, so I should perhaps suspect that I have failed to understand it. What it has to say in its earlier half is to my notion totally unconvincing when applied to what science knows as organic action, although it is an excellent description of the old-fashioned 'psychological' fact (James's stream of consciousness, with its focus and fringe). To the *observer* of organic action, every physical process involved is on a level as regards definiteness with every other, and the 'focus' is at best only a very misleading figure of speech to stand for the fact that all the forces at work converge to this specific physical outcome. When now the physical features of the environment, and the habits of the organism, are put '*in* the experience,' what apparently must be meant is rather that, in the second or scientific sense, they have some 'causal' influence on the *act*, and would need to be taken into account in a complete scientific explanation of it. But in this sense, as I say, the environment does not 'shade off into vagueness'; nor is there any ground for calling it experience except as experience is arbitrarily defined as biological adjustment. For the physical features 'qualify' experience, not at all now in the form of what they are 'experienced as,' but through a physical influence, extending into space 'no one can say how far,' and for the most part first discovered by laborious physical inquiry (relatively very few of them however having been discovered by *any* one as yet; does that have anything to say about their being 'in the experience'?). And meanwhile the physical facts which lie beyond this range of influence (I assume Professor Dewey means to leave this open by his phrase 'no one can say how far'—otherwise he might have been expected to say 'into *all* space') are supposedly for the scientist equally 'real,' though not equally a part of 'experience,' with the entities that stand related to the 'act of writing'; at least there is no good reason apparent on the surface for reducing the cosmos to the necessity, if it is to maintain its status, of coöperating in some human act.

[1] Professor Dewey's doctrine of mind or consciousness—that the organism becomes a knower or a mind when anticipation of future consequences operates as

outcome of philosophy, we may as well admit that philosophy is bankrupt, and turn over its assets to biology. Professor Dewey evidently has supposed that he was doing more than give us second-hand biology. But in that case I am constrained to believe that under the ambiguous head of activity he has included two quite different conceptions, and that he has been able to evade the charge of subjectivism for his first and more significant conception only by shifting to the second when necessity demanded.

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its stimulus—is to be judged in this connection. Of course the objector will reply that this may be the *criterion* of mind for the one who stands apart from an organism and, watching it, endeavors to draw up a scientific definition of the difference between its action and that of inorganic objects. *If* behaviorism is conceded as a final and complete account of the 'human' fact, then it becomes the only possible *meaning* of mind as well. But the critic simply denies that the point of view of the scientific observer *is* final, and maintains the orthodox doctrine that from the inside a living creature is aware of his life as something more than physical movement directed *as if* to a future object.

## PARAPHYSICAL MONISM.

*I. The Paraphysical Method.*—Metaphysics, as it represents the history of human thought concerning the nature of ultimate reality, has oscillated between two points of view, which may be described broadly as those of realism and idealism. The starting point of realistic argument is the universe at large, while that of idealism is individual human experience. Although the course of academic philosophy has led it farther and farther from the naïve realism of common sense in the direction of idealistic interpretations, the concomitant development of physical science has constantly encouraged reassertions and revisions of the realistic doctrine. At the present time it is being claimed, not without some justification, that the idealistic philosophy has lost contact with progressive science, and thus neglects the probable significance of scientific results for the study of the universe as a whole. This objection is especially forcible in a period, such as the present, in which science not only is taking tremendous strides, but is full of postulates or interpretations which tremble on the verge of being directly metaphysical.

It has for a long time seemed to the writer quite clear that a means of bringing idealistic doctrine into intimate contact with both modern physics and psychology is offered in the general theory outlined with remarkable distinctness by William Kingdon Clifford in his essay "On the Nature of Things-In-Themselves" (1878). It is the purpose of the present paper to restate Clifford's doctrine, and to demonstrate, if possible, some of its potentialities. The chief merit of the view, of course, is not that it may bring some new life to a dignified and traditional metaphysical theory, as such, but that, as a modification and development of this theory, it may preserve certain valuable properties of the latter—properties which realism even in its most modern form seems entirely to lack—while at the same time providing it with a basis for the same kind of progress which characterizes physical and psychological science, and realistic systems founded

upon a relatively uncritical acceptance of scientific results. At the same time, the theory is rendered liable to disproof by actual empirical findings, which from the standpoint of the search for truth can only be regarded as a desirable state of affairs.

Clifford recognized clearly three facts which are of fundamental importance. In the first place, he agreed with Descartes that thinking is always an affair of some individual human mind, and that consequently the point of view of any carefully wrought-out system of belief must be that of the consciousness of the individual believer. Secondly, although no individual can directly perceive the consciousness of any other individual, every individual believes implicitly in the existence of the consciousnesses of his fellow men. Thirdly, such a belief can furnish us with the foundation for a methodic study of an objective (or 'ejective') universe, of which other human consciousnesses form only a small part.

Suppose that we symbolize any concrete individual mind by the letter *S*. This individual, following the method of modern introspective, analytical psychology, finds himself, at any instant, to be a consciousness or a field of experience, consisting in connected complexes of numerous qualitatively different elements sometimes called sensations—when they are intense,—or images —when they are weak. The word 'sensation,' may be somewhat misleading, however, as it is often employed to designate a supposed relation existing between *S* and the contents of *S*, instead of standing for the contents—concrete colors, sounds, touches, etc.—themselves. These complexes of qualities tend to exhibit a general bipolar variation which gives them what is spoken of as their *affective tone*. They also vary in a dimension called *degree of clearness*. Apart from these complexes, introspection (of *S*) reveals no soul or ego. The personal pronoun always refers either to the whole psychical system or to some particular part of it.

*S* finds his consciousness to be divisible into two more or less contrasted moieties, one of which makes up what he denominates the 'external world,' and the other of which constitutes the inner world of his 'bodily feelings.' He discovers that 'thought,'

'the self,' the emotions, and other much obfuscated mental terms have their meaning as factors in this body complex. A careful study of the changes which occur in the 'external world,' leads him, after elaborate and hypothetical reasoning, to a system of conceptions which is designated as *physical science.* Upon the assumption of the 'uniformity of nature,' these conceptions—although highly abstract—apply more or less directly to actual happenings in *S*'s external world; but the important thing about the physical scientific system is that it helps him enormously in determining the relations of his inner body complex with this 'outer world,' so that the whole shall be as harmonious as possible.

However, *S* is not satisfied with the development of a psychology and a physics, since he is unable to believe that he, alone, is the universe. A critical comparison of the properties of the theoretical physical world with those of the external world of his sensory perception throws doubt, in *S*'s thought, upon the existence of either of these systems, independent of his consciousness. Nevertheless, he does find it possible to hold that at least certain parts of this external experience are *causally connected* with entities and changes which are really beyond his consciousness altogether. The most significant of these parts are his social human experiences. A simple inference has already led him to attribute these experiences to the existence of *other consciousnesses like himself*, and he adopts the outcome of this inference as the fundamental postulate of his metaphysics.

The further development of *S*'s metaphysical method depends upon the outcome of researches in psycho-physics, a branch of investigation which deals, in effect, with the exact nature of the relations existing between the elements of *S*'s physical world and special independent 'other-consciousnesses.' Extant data indicate that in general these relations consist in a point-to-point correspondence between the structure and processes of the consciousness and those of a *single stage* of the physical process of response, the *central* or adjustor stage. This *postulate of the monophasic cerebral determination of consciousness* underlies the remainder of the argument, and although traditional and plausible, it may conceivably be disproved by further empirical research.

Since in $S$'s system of physics, brain processes are not conceived to be fundamentally different from physical quantities in general, he finds himself forced to conclude that if other-consciousness exists for these physical quantities, it exists for each and all. Argument from the continuity of nature thus leads to belief in a complete universe of other-consciousness.

Let us speak of *any* individual consciousness, $S$, as *subjective*, using the word 'any' in the mathematical sense. We shall suppose, with $S$, that the universe is not solipsistic and that there exists somewhat besides the subjective. All of this somewhat we shall call the *objective*. This use of terms implies nothing whatsoever concerning the inherent nature of the subjective and objective. Stated in the symbolism of the Boolian algebra, if $U$ is the universe and $S$ any part of that universe, $S$ is the subjective—from the point of view of $S$—and $\bar{S}$ (not-$S$) is the objective. The relation $S + \bar{S} = U$ is obviously true, and means that any subjective together with the corresponding objective, makes up the whole universe.

Let us employ the word *object* to mean some part of the objective and the term *idea* to indicate some part of the subjective. It is clear from what has just been said that ideas and objects may be made out of the same kind of 'stuff,' and indeed in certain cases might be absolutely similar.

The objective and the subjective, although mutually exclusive, *interact* with each other, and the effects which the former produces upon the latter are at least partially determined—if the fundamental suppositions of $S$'s metaphysical theory are true—by the nature of the former. Each component in the objective can produce a separate effect in the subjective, whether the component in question be an element or a relation between elements. Consequently, there may exist a point-to-point correspondence between the objective and certain parts of the subjective, in particular with that portion which we call the system of physical science.

Thus, if I select any particular component in the physical world, this will in general possess a determining cause in the objective. This cause is in no sense identical with the part of my

physical world which it determines, but since from an epistemological point of view it is indissolubly connected with the latter, it is highly desirable to designate it by a name which indicates both the distinctness and the interdependency of the two things. Let us, then, pardon a barbarism and attach the prefix *para-* to any physical term to signify the corresponding objective or para-physical term. Thus, a para-atom is the objective correspondent of a physical atom, para-space is the objective parallel of the space of geometry, etc.

Ideas and conceptions exist as parts of the subjective, and in metaphysics, or paraphysics, they refer to parts of the objective as meanings. However, in order that they should be intelligible, they must also have subjective meanings. Since an object is, by definition, inaccessible to the subjective, the definite reference of the conception to the object must be indirect in its mechanism. To refer to any particular object, we refer to some definite paraphysical term, that is, we pick out some definite part, $P$, of the physical world, and state that we are prepared to make assertions about its objective cause, para-$P$. All metaphysical assertions have the general form para-$P$ is $X$. In general, $P$ and para-$P$ are neither identical nor similar, so that the proposition para-$P$ is $P$ is not true. However, it is not improbable that an idea (some portion of the subjective) can be found which will fall in the same class with para-$P$. If $I$ is the class containing such an idea, the proposition para-$P$ is $I$ will be said to be a metaphysical truth. According to our view, metaphysical truth is a matter of more and less, and is proportional in any case to the *similarity* which exists between an object and the idea which is employed in its description.

The problem of metaphysics, thus presented, is that of determining the nature of the complete paraphysical world, *i. e.*, that part of the total universe which influences the subjective—presumably the whole universe with the exception of the subjective. We may now consider in greater detail the means by which we may perhaps hope to accomplish this end. The theory which we shall ultimately develop may be denominated *paraphysical monism;* it is closely related with the doctrines of psychical

monism and panpsychism, advocated by Strong, Prince, Heymans, Fechner and others.

The supposed relation between the total objective universe and that part of the subjective which we call the physical world, or the system of physical knowledge, is one of *point-to-point causation* or determinism. Experiment shows that the most satisfactory method of expressing the relationship of causation is by means of the so-called 'mathematical function,' in which the state of one quantity (or quality), the dependent variable, is represented as determined at any time in some special way by the state of another quantity (or quality), the independent variable. Hence we can translate the statement that the subjective physical world is causally determined by the objective psychical world in general, into the proposition that the physical world is a function of the objective psychical world. We can write this symbolically as: $P = f$ (para-$P$).

The general statement that the physical world is a (mathematical) point function of the objective world—and *vice versa*—gives a comprehensive general account of the relationship which exists between these worlds, as well as of the method by which the latter may be deduced from the fomer. It is of course conceivable that the functional relation which connects each individual $P$ with its para-$P$ is unique, and if this is the case the project of deducing the nature of the complete paraphysical universe may well appear hopeless. However, it does not seem likely that such is the real state of affairs; our analysis of the physical universe has shown it to be made up of a fairly small number of closely similar elements, and has revealed its manifold processes as complex combinations of a few relatively simple laws; and it is plausible to suppose that the causal nexus between the total physical system and the objective system, of which it is a symbol, is also a mosaic depending upon a few elementary relations.

It is clear that if we can discover all of these component relations, we shall be able to determine the nature of any specific para-$P$ from a knowledge of the corresponding $P$; *i. e.*, by the help of the laws we can deduce the object corresponding to any physical conception. By 'deducing the object' we mean merely

that we can ascertain what among all of the contents of the subjective it most closely resembles, and *to what extent* it resembles this content.

But how, it may be asked, are we to obtain these elementary laws or functions? The answer is that this is and always has been the principal business of psycho-physics, or of physiological psychology. It is the purpose of this science, which is practically identical with the psychology of the laboratory, to discover how bodily conditions are related with those of the field of consciousness. A moment's thought will show that the expression $P = f$ (para-$P$) has the general form of a psycho-physical law, where $P$ is the physical variable, and para-$P$ is the psychical one. The ordinary Fechner law, $S = c \log R + k$, would be an example of a relationship of this sort if—as Fechner himself supposed—the stimulus intensity $R$ were the same as the intensity of the brain process immediately corresponding with the sensory intensity $S$. In this case, $S$ would be para-$R$.

Thus far, psycho-physics has been obliged to concern itself largely with physical terms which are only indirectly related to the psychical terms which they influence. Such researches, even when their results are analytically formulated, of course do not furnish us with true psycho-physical laws, although they may provide part of the basis necessary for the deduction of such laws. Even to-day hypotheses regarding direct psycho-physical connections need not be purely matters of guesswork, and we may legitimately hope that as science advances we shall come closer and closer to an experimental measurement of these relations. On the probable assumption that all of the *fundamental* psycho-physical laws are concerned in the determination of human consciousness, such measurements will provide us with an empirical basis for metaphysical argument; although 'empirical' only in a sense which transcends the limitations of the so-called 'ego-centric predicament.'

*II. The Elements of a Definite Paraphysical Theory.*—A prerequisite of any attempt to outline a probable paraphysical system, on the basis of extant knowledge, must obviously be a review of the main results of modern physical and psychological analysis.

For the purposes which we have in mind, this need not be a lengthy task.

It is perhaps in part methodological necessity which has caused the physicist to reduce matter and the psychologist to reduce consciousness to certain elementary parts or *atoms*. Physical atomism has now reached what is probably its logical limit, while psychological atomism is making rapid advances. However, it is to be doubted whether this analytical tendency of thought could have gone so far if existence itself were not in some sense atomistic. The latest and most successful hypothesis in physics supposes all matter to be made up of complexes of positive electrical nuclei and electrons (negative units). The program of modern physics is to explain all of the properties of matter in terms of the dynamical interactions of these particles, and although it is an ambitious one it has thus far met with great success. At the present stage in the development of physical science it is practically inconceivable that the electro-molecular conception of the physical world is fundamentally wrong.

Modern introspective psychology has reduced consciousness to certain observable elements called sensations, or simple experiential qualities. It has been suggested by several writers that in all probability these sensations would be found to be further decomposable if our powers of subjective analysis were keener, so that the vast number of sensory qualities with which we are now familiar would be seen to result from diverse combinations of a distinctly limited number of psychical atoms. These atoms would all be absolutely different and the number and variety entering into any given compound, together with their exact form of combination, would determine the quality of that compound.

We are thus led to the theory of *Gestaltqualitäten*, or form qualities, which supposes that what we perceive as form in the coarser structures of consciousness appears as quality in the finer structures. Whether we call it form or quality depends upon its relation to what we may designate as our *threshold of analysis*. The objection to this theory, as ordinarily stated, is that it seems to imply the unreality of quality, by making it depend

upon the imperfection of an introspective perception: quality is the illusory representation of subliminal structure. The difficulty is removed if we say that structure exists in pure qualities only by virtue of their dependence upon coëxisting structure, or else because they can be *created* by the *fusion* of definite elements in a definite way, and later can be *decomposed* into these elements again. This fusion is less marked for the coarser than for the finer and more cohesive factors in consciousness. Quality and structure thus represent two ends of a single and continuous scale of variation. It is convenient to define the term *form* so that it can be used to designate the position of an entity in any part of this scale, with any desired ratio of structure to quality.

Every science has to deal with its subject-matter from two points of view, first, as statical or resting, and second, as kinetic or changing. Changes, as well as stable systems, possess characteristic structures, and analogy leads us to suppose that the same gradation between obvious structure and quality will be found here as in the case of statical form. Changes, the details of which fall below the threshold of the time sense, will tend to be perceived as wholly qualitative, and these qualities, as such, may be indistinguishable from statical *Gestaltqualitäten*.

We have noted that it is the present ambition of physical theory to reduce all physical phenomena to relations and changes in relation between electrical atoms, that is, to state them in terms of *constitution and its alterations*. The description of the physical world thus becomes a statement of the present configuration of its atoms, and the laws of that world tell how these atoms will *move* with respect to one another. It is clear that the point-to-point correspondence which the paraphysical monist believes to hold between the physical and the general psychical worlds must reduce in the last analysis to a correspondence between physical and psychical atoms, and their functions. Each essential elementary part of the physical world must be attributable to some definite elementary part of the paraphysical world. Hence it is evident that if the doctrines of psychological atomism and of form qualities are accepted, the task of paraphysics (and of metaphysics in our sense) must consist primarily in the trans-

lation of descriptions of physical structures into descriptions of psychical form and quality, or of physical change into psychical change and quality.

We can only do this by the application of a knowledge of the general functions which connect the psychical forms, changes and qualities with physical changes and structures. At present we are obliged to content ourselves with a largely speculative deduction of the nature of these functions from the very imperfect data which are at our disposal.

The fact that modern physics tends to postulate the existence of only two fundamental species of atomic particles, the electron and the positive nucleus, suggests that there are at most only two kinds of psychical atoms, and that all of the different qualities of consciousness are built up in various complex ways from these fundamental atoms. Accordingly, the ultimate elements of the real universe should be the para-electrons and the para-positive-nuclei. All electrons are alike, and it is probable also that all positive nuclei are alike—although they may possibly vary in magnitude. On the other hand, the difference between positive and negative electricity would seem to be the most fundamental difference in the physical world, and the suggestion is thus apparent that the para-electron and the para-positive-nucleus are also markedly different. In fact, it is interesting to suppose that they are 'absolutely different,' and that the relationship which exists between them constitutes the ultimate metaphysical meaning of difference in general.

Under the influence of their forces of attraction the positive and negative electrical particles combine with each other in the formation of complexes of greater or less intricacy, and hence we must infer that the parallel associative tendency among psychical atoms results in the production of similarly intricate psychical complexes. The conception of force is a very abstract one, but it is nevertheless advisable to define an equally abstract paraphysical conception, viz., *bond*, which is to be a synonym of para-force. Since both positive and negative forces—attraction and repulsion, respectively—exist among electrical particles, it is necessary to speak, also, of positive and negative bonds among psychical

atoms. A positive bond between two psychical atoms or other components is equivalent to their compatibility or associative linking together; a negative bond is equivalent to their incompatibility or power to inhibit each other. This general scheme is of course Herbartian, but at the same time, directly psychophysical.

If we study the complexes of electrical aggregates which constitute matter, we find that they differ from one another in at least three fundamental respects: (1) in order of *complexity*, (2) in *configuration*, and (3) in *stability* or *cohesiveness*. Our method of argument compels us to attribute three parallel dimensions to the corresponding objective psychical complexes, and it is natural to suppose that these dimensions are essentially the same in the psychical as in the physical. We shall speak, then, of the order, the form, and the cohesiveness of psychical complexes. The order depends upon the number of contained psychical atoms, the form upon the manner of attachment of their bonds, and the cohesiveness upon the average strength of the bonds. The three categories correspond, in a philosophical way, with the three fundamental physical dimensions: mass ($M$), length ($L$), and time ($T$).

All physical structures and processes appear to consist in the arrangement and rearrangement of particles in three-dimensional *space*. The paraphysical position permits important contributions to the philosophy of space. It has already been hinted that our perceptions of the physical world—along with the system of physical science—are parts of our consciousness whose natural significance is wholly functional, and consists in their power to mediate favorable adjustments between ourselves, $S$, and our objective environment, $\overline{S}$. Represented in terms of the symbolism of the physical world itself, this environment is what lies outside of our bodies in the external universe, but the actual environment is the objective psychical one. The recent discussions of Bergson emphasize the fact that in spatial perception lies the essence of our capacity to adjust ourselves to our environment. Since Descartes, philosophers in general have exhibited a constant tendency to reduce the physical to purely geometrical

terms and to exclude these terms from the class of mental phenomena. The paraphysicist believes the last-mentioned tendency to be in error, but he does hold that the notion which it expresses has profound significance.

This significance is to be found in the fact that space is a special construct in our consciousness, so made as to form an appropriate arena for the simultaneous representation of many objective happenings. From the point of view of metaphysics, space is an artifact, or a metaphysical surd. The paraphysical doctrine of the nature of space departs from true Kantian theory only in so far as it does not imply the unknowability of the 'things in themselves' which get represented in the spatial manifold, and in the fact that it has a biological or a para-biological basis.

The paraphysical monist believes that space is only one of many possible forms of combination of psychical elements. He very strongly doubts its existence apart from animal consciousnesses, where it is necessary simultaneously to collect a large number of discriminable psychical factors in a single cohesive complex. It is clear from this interpretation that the arrangement of material things in space must have a very definite objective meaning, which is obviously to be found in the form of the objective psychical complexes, the manner of attachment of the psychical bonds. However, since space is one sort of arrangement of psychical units, other arrangements will possess certain fairly close similarities to it, especially as regards amenability to the fundamental conceptions and operations of the Boolian algebra.

The point of view of paraphysical monism permits us to dissipate at once the problem of the infinitude of empty space, which appears to be analogous to that of the expression of irrational numbers in mathematics. The world of material particles is finite and so, accordingly, is the objective world of psychical entities; both exist in a limited and definite number. Besides psychical atoms and their combinations, nothing exists objectively; if we abstract from the physical world all matter (or electricity), what remains—viz., empty space—must represent in the objective world: *nothing*. If para-space is identical with

nothing, then the infinitude of para-space means the infinitude of nothing, so that the problem of infinitude has vanished. It is important to bear in mind that the concrete space in human consciousness differs from the abstract, conceptual space of geometry and ordinary theoretical physics in at least three respects: (1) it is finite, (2) it has finite divisibility, and (3) it is anisotropic.

It may be claimed that there is a second problem in infinites which remains after that of space has been dissolved, namely that of the infinitude of *time*. The limits of the present paper will not permit a detailed discussion of abstract time. Abstract time is a highly symbolic means of representing diverse forms of *change*. Bergson's treatment of this subject will probably be found satisfactory. If the actual meaning of the concept of time is to be looked for in change, the abstraction of all concrete (psychical) existence from the universe would leave nothing in which change could occur, and hence, when such an abstraction has been made, the problem of the infinitude of time must disappear along with that of space.

However, it may be urged that we have still to consider the infinitude of change, but here again the problem arises from a misinterpretation. Time is often regarded as an existent manifold, but change certainly cannot be so regarded. Only one stage in any change *exists*, and that is the *present* stage. If the psychical universe is finite, there can be but a finite number of such stages in any present. If we attempt to conceive at once all stages, past, present, and future, we discover a problem of infinitude, but it is a specious one, because it does not apply to the existing world. Our persuasion that the problem is real is due to our inveterate tendency to conceive change in spatial terms.

We have by no means touched upon all of the points which are involved in the paraphysical conception of space and time. All of the spatial relationships which make up geometry and kinematics must be given a paraphysical meaning. Every definite spatial relationship determines certain unique conditions of dynamical or causal interaction between the related particles in a system, and when we translate spatial into non-spatial, or

hyper-spatial arrangement, we eliminate the space *quale*, while retaining the formal mathematical relationships which have been pictorially summarized by the permutations of elements of this *quale*. Para-distance, for example, must be strength, or rather weakness of elementary bonds, or else the time required for interaction to occur between two elements. Para-motion must be identical with change in the strength of bond. Para-direction will consist in relationships between the many elements to which some single element is bound, etc.

It is clear that the facts indicating the radical relativity of space and time which are now becoming of importance in physics, are in thorough harmony with the paraphysical interpretation of these conceptions. Indeed, the so-called *theory of relativity* may be regarded as giving us direct evidence upon the basis of physical observations, that space and time as we know them are in part subjective creations. It is characteristic of physical method to separate what is objectively determined from what is relatively subjectively determined; the application of the method long ago eliminated the 'secondary qualities' from physical consideration, and it is now disposing of certain supposedly essential properties of the 'primary qualities.' The relativity theory shows, in the first place, that space and time are logically interdependent conceptions, and secondly, that the concept of time is logically complex, in that it depends upon two prior concepts, those of change—or rearrangement—and of simultaneity. The concept of simultaneity, in turn, depends upon that of causation or interaction between separate particles or systems of particles. The tendency of paraphysical analysis, also, is to reduce the objective counterparts of both space and time to laws of change and interchange in a general atomistic system.

Let us now return to our discussion of the paraphysics of matter.

Matter is now regarded by most physicists as an aggregate of electrical particles held together by exclusively electrical forces. These forces originate between the electrons and positive nuclei and their first effect is the production of *atoms*. However, there is a certain residue of attraction remaining after the stability of the atom has been secured. This appears as chemical affinity,

and makes possible aggregates of higher order than the atoms, viz., *molecules*. Since the forces of chemistry are far smaller than those of the inner atom, the molecule is much less cohesive than the atom. There is still a residue of attraction left over from chemical affinity, and this is expended in combining the molecules together to form molar masses of matter, ranging in magnitude from the *colloidal* systems which characterize the substance of living organisms, to the larger aggregates of *crystalloid* material which compose the inorganic part of planets and of solar systems. It is probable that gravitation, which holds the universe as a whole together, represents a final residue of the primary electrical force, which is of an even higher degree of attenuation. The various stages of complexity of material organization are quantitatively continuous with one another, and probably represent levels of stability rather than a classification according to determining units of structure.

Arguing paraphysically from the above facts, we should expect the lowest-order combination of psychical atoms (para-electrons, etc.), to be the most cohesive, while the higher-order complexes should be less and less cohesive, in proportion to their intricacy. The multiplicity of sensory qualities which we know in our own consciousness probably exists on about the same level of complication as does the multiplicity of compound substances with which the chemist is familiar. The relations of similarity and difference between sensory qualities are closely analogous to those which obtain among chemical substances; they show gradations, related groupings, etc., and each possesses its own distinctive individuality. There are only about one hundred chemically different kinds of atoms, and thousands of different sensory qualities are known, so that if our paraphysical postulates are at all valid, these qualities cannot be identical with para-atoms, but must belong to a class of complexes more varied in constitution and hence of higher order. However, because of our inability introspectively to detect any structure in elementary sensations, they must correspond to relatively cohesive aggregates of physical particles, such as chemical molecules.

It must not be inferred from the above that we are to conceive

of such a sensory experience as a broad patch of blue color, for example, as the psychical parallel of a single molecule or small group of molecules. On the contrary, such an experience must probably be represented by a relatively large field of ionized substance containing billions of separate molecules. The intensity of this and other sensations would be proportional to the spatial concentration of the ions or molecules. As metaphysicians, we are concerned with human consciousness only in so far as it illustrates the nature of existence at large. If specific chemical substances in the human brain mean definite sensory qualities, they have the same meaning wherever they are found. Consequently we are led to regard the entire paraphysical and para-chemical universe as a vast and delicate pattern of marvellously varied and brilliant qualities, relatively only a very small number of which are known in our experience.

Every new combination of psychical elements, or radicles, must involve the creation of a new quality, since it means the appearance of a new psychical complex. We may suppose that in such combinations the qualities of the elements themselves form part of the new quality, although only a part. This principle of the fusion and mutual modification of qualities has often been discussed in psychology under the caption of 'mental chemistry.' It is a direct deduction from paraphysical presuppositions, and permits us to concur with Bergson in his contention that evolution can create real novelty.

Above the scale of molecular complexities we enter that of molar structure. The electrical forces existing between the constituents of crystalline solids are among the strongest and most unifying known for molar systems; indeed, it has recently been claimed that a crystal should be regarded as a very large molecule. Conversely, colloidal particles—which have long been looked upon as large molecules—may probably be considered as small crystals. In accordance with our general presuppositions, therefore, we should expect to find among the psychical systems corresponding with crystals and colloidal particles, especially cohesive forms of an order higher than that of para-molecules proper. Since 'cohesion' depends upon the presence of fields of

electrical or magnetic attraction between particles, cohesive higher-order systems should also exist in parallel with regions of matter where extensive states of electrification or *ionization* exist.

A special case of the last mentioned variety appears in living cells and *nervous activity*. The modern (Nernst-Lillie) theory of cell stimulation and the nerve impulse indicates that the enclosing membranes of living cells are the loci of electrical double layers, which undergo changes in intensity, or voltage, during stimulation. Such cell surfaces are therefore the seats of relatively open or extended fields of electrical and magnetic forces. It is to be supposed that the human consciousness, itself, finds representation in such a region of continuous electrification, somewhere in the cerebral cortex, probably in the frontal 'association areas.'

Thus far in our discussion we have offered no explanation for that peculiar dimension of the components of human consciousness which is known as degree of clearness. Variations of ideas in this dimension lie at the basis of the phenomena of attention, the maximally clear parts of consciousness constituting its 'focus,' and the unclear ones making up the 'fringe.' To explain these phenomena we may regard the so-called 'stream of thought,' or 'introspective commentary' as a paraphysical 'origin of coördinates' for the human consciousness, and then suppose that the clearness of any factor of consciousness represents the strength of its bond with elements of the thought stream. The meaning of the concept of 'bond' may thus be regarded as directly exemplified in phenomena of attention.

The ability of 'thought' to comment upon any psychical fact may be assumed to depend upon this same intensity of bond. If we designate the weakest bond which will permit of any such commentary as the 'introspective bond,' we may define the contents of the introspective consciousness as the sum of those parts of the psychical universe which have bonds with the passing thought as great as or greater than this introspective bond. All other psychical entities lie below the threshold of consciousness of this particular stream of thought. In general, thresholds would not be of significance where no commentary is possible,

but, theoretically, any psychical element might be taken as an origin of coördinates, with respect to which those other psychical elements with which it has the strongest bonds are maximally clear. Phenomena of threshold and attention depend upon the adoption of a point of view. In psychology and philosophy the point of view is naturally that of human thought, or of the process by which certain psychical facts obtain symbolic representation in *words*.

In this context it may be appropriate to say something concerning the possible pantheistic implications of paraphysical monism. The existence of the force of gravitation assures us on the basis of our fundamental presuppositions that all parts of the universe are bound together into a somewhat cohesive whole. It was Fechner's belief that this whole—as psychical—constituted a system which could appropriately be called 'the mind of God.' However, so far as we can see at present, this conception is poetical rather than philosophical, since the universal complex is very loosely integrated; and as the universe as a whole can have no environment, it is out of keeping with analogy to suppose that, in any ordinary sense, it is a thinking being.

Thus far we have concerned ourselves primarily with the *statics* of the paraphysical universe. Although it is a much more intricate subject, we must dispose of the dynamics, or paradynamics, quite briefly. There are two primary influences which cause change in the universe of psychical complexes, viz., positive and negative bonds, tendencies of association and of inhibition, respectively. The former encourage integrative, and the latter disintegrative changes. In the last analysis, these are the only two possible types of change in a universe made up of conserved atoms. Both positive and negative bonds operate by the generation of para-motion, which consists in change in bond intensity; from their nature, positive bonds thus tend always to become stronger, while negative bonds tend constantly to weaken. Para-motion is a conserved quantity which is potentially re-convertible into bond.

In our paraphysical account of the universe we have not yet considered the cosmical status of a very important psychological

variable, namely *affection*, or pleasantness and unpleasantness. The affective qualities do not belong in the category of sensations, and they appear primarily as special modifications of *complexes*, rather than of elements. We have already noted the possibility of *form qualities in the realm of change* as well as in that of statical structure, and analogy strongly suggests that pleasantness and unpleasantness are the form qualities of the two fundamental and opposed types of change which are possible in an atomistic universe, *integration* and *disintegration*. Synthetic, metathetic, and analytic physical reactions would thus correspond with pleasant, indifferent and unpleasant psychical processes, respectively. This general principle, which relates affection with types of psychical reactions—pleasantness with association, unpleasantness with inhibition—may be called *the affective law*.

The affective law is exceedingly rich in paraphysical implications. The simplest algebraic definition of 'integration' in terms of bond and rate of change of bond, makes the former concept include decrease of negative bond, as well as increase of positive bond, so that it does not refer exclusively to a spatial or para-spatial aggregation of elements. However, this usage is in harmony with ordinary ways of thinking, which would regard the elimination of inhibitory forces as an integrative effect. All disintegrative changes occurring in the physical world must probably be looked upon as corollaries of prior or simultaneous integrative changes. Two general causes of interaction between systems of elements appear to exist, *directed motion*, attributable to forces of mutual attraction (or repulsion), and *random motion*, due to general kinetic energy, or 'temperature.' Physical analysis indicates that, in the former case at least, disintegration occurs only in order that some new form of combination which is more cohesive than the one originally existing, shall be possible.

The necessity of this concomitant disintegration rests apparently upon the existence of both positive and negative forces between the particles of which the reacting aggregates are composed. The process of interference or conflict of these forces in the psychical or paraphysical universe may be called *colluctation*. Random motion may be regarded as an evolutionary product of

this conflict, which depends upon the individuality or discreteness of the elements of which the universe is made up; if there were no forces of repulsion, atoms could not continue to exist, and hence these forces and their consequences may be considered to represent a permanent chaotic and anti-synthetic factor in the general nature of things. Disintegrative changes atrributable to random motion may be regarded as delayed results of colluctation.

In the physical universe, therefore, the initial tendency of change seems to be in the direction of more and more stable or cohesive aggregates of material particles, a fact which is recorded in the second law of thermodynamics. Hence it would appear that if our affective law is true, the primary para-dynamical tendency in the objective psychical universe must be in the direction of the production of the greatest possible amount of pleasantness, the appearance of unpleasant affections being a secondary result of the tendency towards pleasure. The primary cause for the generation of any unpleasantness is to be looked for in the co-existence of negative and positive bonds between different parts of reacting psychical complexes. However, no matter what the change which takes place, the total pleasantness involved will always be in excess of the total unpleasantness, although in limited parts of the system there may be a surplus of negative affection. According to this theory, therefore, the entire universe is governed in its movement by a *psychical law of hedonic selection*, which falls short of perfect success only because of the inability of its individual components to coöperate completely.

All this is, of course, highly speculative, but not without some empirical foundation.

The concepts which are involved in the above discussion provide us with the basis for a theory of the *evolution of psychical forms*. The action of the integrative tendency in the universe is constantly directed towards the production of more and more complicated psychical structures, but the scope of this tendency is limited by the accidental conflicts which occur between the structures in question, these conflicts often resulting in their

partial destruction. It follows that the complexes which exist at any time represent a selection of the least conflicting types which have appeared up to that time. Structures which conflict and destroy each other, do so, and only those which do not conflict remain. These make up what in biological language must be called the 'fittest.' However, stability is a relative concept only, for the 'average life' of any structure is finite.

Among the most complicated of all of the psychical structures thus formed are to be found para-organisms and, in particular, para-human-organisms. These are vastly intricate and relatively unstable psychical complexes whose activities are intimately correlated with the nature of their psychical environments. Only a small portion of one of these para-organisms is constituted by its para-nervous system, and only another small part of this active system makes up the animal consciousness. However, it is the special function of this latter consciousness to serve as a clearing house for the efforts of the para-organism to coördinate its activities with the condition of its environment in such a way as to preserve the structure of the whole organic system. It is for this reason that the scheme of physical conceptions and perceptions which forms the most practical part of the consciousness in question, bears that special relation of symbolism to the objective psychical world which we have discussed in the very beginning of this paper. Paraphysical monism, then, is a self-explanatory system.

The affective law, especially in its connection with the theory of evolution, has an important bearing upon the perennial problem of purpose or teleology. Paraphysical monism, as developed in the present paper, although it emphasizes the psychical and even the appetitional side of existence, is not a teleological system of explanations. The existing forms in the universe are the products of the interaction of individual elements actuated by 'blind desire.' 'Purposes' are merely the special patterns assumed by these elements in their interaction, the nature of the patterns being determined largely by prior evolution, restricted by the principle of 'natural selection,' or stability. The imaginal or mosaic factor in purpose is as much a limitation of desire

as it is an expression, and the popular attempt to explain organic structure in terms of purpose completely reverses the actual problem, which is to explain purpose in terms of organic structure. In certain respects these views resemble those of Bergson.

It is obvious that the *system of psychology* which naturally follows from the speculative paraphysical theory which has been developed above, will correspond very closely with that of Freud. In the first place, it countenances the postulation of a truly psychic subconscious, although every element and process in this subconscious has a representation in the nervous system,—as have also the factors of the conscious. Secondly, the paraphysical psychology must employ a principle of inhibition, or 'repression,' as well as one of association. Thirdly, it would emphasize, with Freud, the biological origin of all organic springs of action (purposes), and the subconscious localization of their primary energies in the instinct complexes of self-maintenance (the ego complex) and sexual love.

The paraphysical scheme is also consistent with the modern program of *behaviorism* in psychology, so far as this is regarded as a methodological rather than a metaphysical doctrine. Human, as well as general animal behavior can be studied successfully by purely physical methods, and can be explained completely in terms of physical concepts. Moreover, the purely introspective study of consciousness can never lead to its explanation, or to the discovery of many of the laws which govern it, because consciousness is merely a 'cross-section' of a stream of causation, practically all of the determinants of which lie outside. Nevertheless, we must disagree with the assertions: (1) that there is no such thing as consciousness; (2) that consciousness cannot be studied by scientific methods; (3) that consciousness is not worth studying; and (4) that it can be explained in physical terms.

## III. Conclusion.

The above discussion presents in a qualitative and very schematic outline, the essentials of a metaphysical theory which, in unpublished form, the writer has already developed in far greater detail. Some of these details will perhaps be considered in future

articles. It will be clear to the critical reader that the system, as outlined, has close affinities with many historical schemes—besides that of W. K. Clifford—such as, for example, the Schopenhauerean theory of the will as *ding an sich*, the appetitional monadism of Leibniz, and even the psychic chemistry of Empedocles. Paraphysical monism may be regarded broadly as a purged and modernized edition of the general idealistic *Weltanschauung*. It is idealistic in the sense of considering the substance and structure of the universe to be similar to that of consciousness and of viewing the physical world as a special conscious construct, as well as in its acceptance of individual subjectivism. Its dependence upon the 'point to point' hypothesis of psycho-physical parallelism, with the accompanying implication of specific energies and 'pontifical' ganglia in the nervous system, also harmonizes with general idealistic preconceptions.

However, paraphysical monism rejects what the neo-realists regard as the fundamental assumption of idealism, the 'constitutive theory of relations,' and especially the application of this theory to the relation of cognition. It also refuses to keep up the pretense of adhering to the 'ego-centric predicament' as a logical basis for argument. While it denies that anything can be known *a priori*, and also that metaphysical truths can be known *a posteriori*, it at the same time offers a speculative postulate—which it is believed everyone must ultimately accept—as a foundation for the development of a methodic metaphysics in the light of empirical data.

On the basis of the method indicated by this postulate, the fundamental premises of our speculative theory can themselves ultimately be tested and found true or false. The manifold of elements and events which make up our conception of the physical universe is regarded as a symbolic representation in the individual human mind of a world of 'other consciousness' beyond this mind, so that all of the physical elements, structures and laws have a metaphysical meaning. The system of modern physical science thus appears as a great cryptogram, and if we can discover the cipher we shall be able to translate our physics

into metaphysics. An analysis of the situation shows that the key to the cipher is to be found—if at all—in the empirical study of the direct relations of determinism between consciousness and the physiological process of response.

The only merit which can ethically be claimed for a system of thought is that it is true. Unfortunately, in the case of metaphysical systems, this is the most difficult of all claims to substantiate. However, there are a number of points regarding the paraphysical scheme which prove it at least to be worthy of interest and attention on the part of philosophic thinkers. Its principal merit lies in its synthetic power. While in a sense pluralistic, it is the most monistic of all systems which attempt to give a unitary interpretation of the results of psychology and physics. It solves the riddle of psycho-physical parallelism and the problem of the evolution of consciousness. It provides metaphysics with clear conceptions and a definite method of investigation which brings philosophical thought into intimate contact with modern science, and makes scientific progress an asset to ontology as well as to technology. It is consistent with a clear-cut epistemological theory of empirical and of objective truth. It retains a large number of the results of historic philosophy, but unites them into a synthetic whole. It disposes of the antinomies of space and time; solves the mysteries of illusion and error, of the separation of the primary from the secondary qualities, and of the qualitative blankness of the fundamental entities of physical theory. Besides this, it provides us with what Fechner called a 'day view' of the universe, and offers a possible basis for an objective theory of value and of ethics.

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# DISCUSSION.

## Beyond Realism and Idealism vs. Two Types of Idealism.

PROFESSOR CREIGHTON'S paper on "Two Types of Idealism" seems to me to deserve careful study by both idealists and realists, but above all by those who, like the present writer, refuse to be numbered with either school. As regards realism and idealism themselves, he has, I think, defined their essential difference in a way which, while open to objection at a certain point, is well adapted to bring about a better understanding of the motives of each. For those who seek a way beyond that alternative, he has suggested a line of thought which, it seems to me, ought to be fruitful.

With a large part of the paper I am in hearty agreement. So far as the spirit, if not the letter of philosophy is concerned, I find myself heart and soul with that standpoint he has chosen to call "speculative philosophy." It seems to me to be the true *Philosophia perennis*. On the other hand, I am inclined to think, with Professor Bosanquet, that the time has come to repudiate the name idealism. I have long thought that a nomenclature that is so effectual in hiding important differences between those in the same camp, and still worse, obscures the important bonds often connecting realist and idealist, has outlived its usefulness. A classification which makes a philosopher like Kant a 'reluctant witness for idealism,' and in any degree justifies a realist like Professor Fullerton in saying that Mr. Creighton himself is separated from realism "only by a word," is misleading to say the least. "Traditional idealism may not," as Mr. Creighton says, "be willing altogether to abandon its historic name"; but if so it is now largely from motives of piety which would be honored in the breach rather than in the observance. Professor Creighton himself recognizes that it is "a proposal that deserves careful consideration." What I wish to show is that there are elements in his own argument that lead logically to its abandonment.

"The characteristic mark of idealism, as it is found in the great systems is," he holds, the "direct acceptance of things as having value and significance." As stated in another place, "it is contradictory to separate value and reality." The characteristic mark of realism on the other hand, "when it is consistent," is to hold to atomic entities,

"that all relations are external, and that all significance and meaning are secondary and derivative, imposed upon the universe by subjective mind." Since, as he holds, the former is the necessary presupposition of all valid philosophizing, the *true* idealism is to be maintained.

Now I hold with Mr. Creighton, that this 'primary insight' is an axiom of all true philosophy. It has moreover been a characteristic of true idealism consciously to recognize this fact; and for this it deserves all praise. I do not think, however, that this is sufficient to characterize a philosophy as idealistic. On the other hand, I doubt whether it is an ultimate distinction between idealism and realism. Consciously, it is true, realism has usually repudiated this assumption. Unconsciously, however, it tends to accept it. Doubt on the first point leads me to question the necessity of any form of idealism. The second doubt suggests to me a possible common ground between the two which might lead to mutual understanding and ultimately, perhaps, to transcendence of the opposition.

Mr. Creighton eschews 'mentalism' and all its works. If I understand him aright, the idea that reality must be mental results from a false inference from the 'primary insight' that reality must be significant, must have value. I agree with him on this point. Many realists seem to realize that what they call the idealist's 'obsession that reality must be mental' really goes back to a deeper prejudice, namely this very 'primary insight.' In the words of Bertrand Russell, "it is generally also implied, for reasons that are obscure, that what can have no importance *for us* (italics mine) can not be real." Of course Mr. Creighton does not mean (nor would I suggest) that this is the only source of 'mentalism.' There are undoubtedly other false inferences, as the realists have shown sufficiently. But it is the chief and determining one. How then does this false inference arise? It is assumed that if there is to be 'genuine' knowledge, if experience is to be 'significant' (note the value connotations) the object must be reduced to terms of mind. Obviously the inference does not follow. It would follow only in case value and significance were themselves subjective and mental, a position which Mr. Creighton explicitly—and I think rightly—denies. It is only an interpretation of value which makes this primary insight equivalent to the postulate that reality must satisfy *us* that tempts us for a moment to think of reality as a construction of ourselves. But for me the denial of this interpretation is sufficient to justify the repudiation of all implications of idealism. Let me now indicate why I think it is desirable that Mr. Creighton should do so also.

Mr. Creighton rightly insists that "it is impossible to reduce material things to states of consciousness in individual minds." He is equally certain that "absolute idealism of the type that postulates an absolute mind as a vast receptacle for things, conceived as a magnified or extended psychological consciousness," is just as subjective as the view that reduces things to states of an individual mind. "The assumption is both arbitrary and useless as a guarantee of objectivity and significance."

With all this I heartily agree. Yet I contend that either one of these *is*, historically at least, idealism's interpretation of the principle. The idealist complains that he is misunderstood when the realist places him in one or the other of these categories. Yet the realist is not wholly to blame. It is almost inevitable that idealism should run into one or other of these paths. As Windelband says, when we seek to turn validity or value into entities, there is "nothing left to us, since these are given to us . . . in spiritual actuality, than to think the formal structure of the valid as a 'spiritual order,' and to connect it with a spiritual first principle." A 'mentalistic' metaphysic seems the predestined path of such speculation.

I suppose Mr. Creighton hesitates to abandon 'idealism' partly at least because he feels that if he escapes the Scylla of mentalism it is only to risk the Charybdis of an unenlightened realism. I do not believe that such a fear is justified. It is precisely at this point that I am disposed to take issue, in one matter at least, with his characterization of realism.

Mr. Creighton holds that, in contrast to idealism, realism denies this primary insight and holds that "value and significance are something subjective, phenomenal and adventitious." I do not deny that consciously this is often (as in the case of Russell) the attitude of realism. But I also find it constantly denying its asceticism in every breath it breathes.[1] Take such a valiant defender of realism as Fullerton. Why does he become so eloquent over "Everybody's World"? Surely not because he separates reality and significance, but precisely because he does not separate them. Why does he in turn reject Berkeley's "vision glorious," Bradley's "transmutation" of the world, or Royce's new idealism with all "the glory of it"? Surely not be-

[1] One runs some risk, of course, in saying anything definite about a philosophy which puts values among the universals and at the same time considers that world essentially 'spectacular,' the meaning and significance of which is irrelevant. The well known difference among the neo-realists themselves, as to whether values are merely human and subjective or inhuman subsistents, adds to the difficulty. But taking realism as a whole, I think my contention is sound.

cause they fuse value and being, but because for him they take values away and give fictitious values instead. It is a *bona fide* world, a *bona fide* nature (and for the Neo-realist, especially a *bona fide* logic) for which they contend. They insist upon independent entities, externality of relations, because for them these are the *a priori* of a valuable world. But Mr. Creighton says if realism is consistent it denies this (p. 516). Well then, we shall simply have to say that it is never quite consistent. For a *bona fide* nature or *bona fide* logic, if they mean anything, mean simply this—that they constitute the faith of the ages, of the race, of the inhabitant of Everybody's World. If you deny it you are faithless, you play fast and loose with this world. To some of us realism represents a morbid evaluation of the existential category, but it is an evaluation just the same. Other basis in the last analysis there is none.

Mr. Creighton himself accepts the realist's world at practically its face value—the "physical order" "in very much the sense in which it is presented to us by the assumptions of common sense and the objective sciences" (p. 533). For this reason Professor Fullerton has claimed him as a realist. "The title which a man accepts should not blind our eyes to what he means to say." But if you will examine the grounds for his acceptance, you will find that it is *not* because the truth of the distinction between the subjective and objective orders (which the realist will not have blurred) is thought to be something which we may know independently of the question whether that knowledge has any value, but precisely *because it is* the indispensable condition of a *valuable* world. That such a world shall be, requires not merely the social supplementation of our fellows, which idealists, strictly speaking, ordinarily find sufficient; but also the supplementation of a nature independent of subjectivity. With the realist he also demands a *bona fide* nature, but it is because, as he says, "even in science the point of view of value is never eliminated." I can not see but that the realist actually does, and must do, the same.

I do not feel, therefore, that in abandoning idealism, Mr. Creighton need fear an unenlightened realism. He might rather look forward, hopefully at least, to some conception that shall combine the values of both. I rather think he has suggested the outlines of such a conception himself.

Mr. Creighton condemns both realism and idealism (in its usual forms at least) for one and the same reason, namely, because of a morbid evaluation of the existential category. It is because both of them "stick in" these categories that neither can comprehend experience

"as a system of developing meanings." He constantly speaks of the necessity of abandoning this standpoint with all its limitations. With all this I am again in hearty agreement. "The prejudice in favor of existence" or actuality, as I have called it elsewhere, is, I hold, indeed fatal to any interpretative philosophy. But it is all-important for us to understand just what this limitation is and what its transcendence would imply.

I assume that by the existential categories is meant, not only existence in the narrower sense of physical and psychical, but also abstract being in the sense of subsistence, in short any concept of independent entities. I assume also that, as a consequence, we must distinguish 'reality' from any of these concepts. But then what is reality, and when we transcend these limitations whither do we go?

Now there seems to be only one answer and, if I mistake not, Mr. Creighton accepts it. Reality in this sense is a value concept. Value is only valid and not existent. If we seek to turn this validity back into being there are only two paths and neither of them is he willing to take. For him, though he does not say it, over-individual minds are, I suppose, either existential, or impossible objects like round squares.

I say I think Mr. Creighton so makes answer. At least he holds that value is more ultimate than existence. "That the standpoint of value is more concrete than that of existence is evident," he says, "from the fact that it includes the latter as a necessary moment in itself.[1] On the other hand, there is no road to significance if one begins with bare existences, no path from given entities, whether physical or mental to a real world, real knowledge, or to judgments of value of any kind." Since the concrete is for Mr. Creighton the more ultimate, evidently value is logically more ultimate than existence or being.

But what follows from such a position? Assuming that I am right in my interpretation, does it not mean the abandonment of the ontological point of view for the standpoint of value and validity, and does not then an idealistic ontology become, as Rickert says, merely "a roundabout way" for the solution of the problems of validity and for the interpretation of meanings and values? I am well aware, of

[1] On page 528 it is said: "it is surely contradictory to separate existence from value." I suppose this means that we can not think existence ultimately without giving it some sort of value, and, on the other hand, we can not think value without giving it some sort of reality. How this is to be interpreted I have tried to show in an article entitled "Ontological Problems of Value." *Journal of Philos., Psych.*, etc., June 7, 1917.

course, that Mr. Creighton may protest, with Royce, that it is impossible, or even intolerable, to remain here. "Can we tolerate," he may ask, "this lack of finality?" In a sense, I suppose, this is almost a matter of taste, and yet scarcely so, for when Royce himself seeks to turn validity back into being, does he not follow that very path which Creighton refuses to go? In any case, if he has avoided the pitfalls of the two historical forms of idealism which Mr. Creighton repudiates, it is by so close a shave that we can scarcely yet feel wholly safe.

In the last analysis, I suppose, the whole question depends upon Mr. Creighton's conception of the postulates of genuine knowledge. His refusal to abandon idealism is doubtless due to the belief that the principles of knowledge which it is its lasting glory to have developed, are inevitably bound up with it in some form. Let us examine this question.

'Speculative idealism,' in Mr. Creighton's sense of the word, insists upon three fundamental principles of knowledge. These are briefly: (1) The mutual involvement of mind and the objective system, (2) the complementary relation of the individual mind to other individuals, (3) the axiom of coherence or system. In insisting upon these principles philosophy "only endeavors to gain recognition and explicit statement for what is constantly assumed in everyday experience." But "such a description of knowledge is obviously not possible so long as our thought is tied down to the category of existence." It is possible only when we make use of the category of value and validity.

Here, I take it, is the *crux* of the problem. Granted that this is but the explicit statement of the assumptions of everyday experience; granted also, as I believe, that they are the necessary presuppositions of all true philosophizing, does it mean idealism, does it contradict the realistic element embodied in Creighton's system?

As to the first principle, the realist ordinarily tells us, dependence upon mind can mean only one of two things. Either the object is part of the mind, or the mind is in some sense the cause of the object. This, of course, means mentalism in one of its two forms. But I do not believe that this alternative is necessary. There is another "harmless sense" (Fullerton) in which, the realist admits that the object is "not independent of the knower," namely in the sense that the world we talk about must have significance for mind. But this is precisely the kind of dependence, and the only kind, that Mr. Creighton's philosophy demands. If the realist finds it harmless, so much the better, for certainly no idealist wants to do either him or his world any harm. It does *not* involve idealism, according to the realist, nor do I think it does.

The principle of coherence is more important—and more difficult. If philosophy is to be viewed, not as an external description, but as an interpretation of meaning, true philosophy certainly demands the postulate of coherence—for the simple reason that 'meaning' is inseparable from it. The false procedure of historical idealisms has consisted in thinking that coherence is something contributed by mind, in the 'existential sense.' It cannot be denied that the term 'concrete universal' has historically a mentalistic connotation. It is also true that to define value in terms of it—as Creighton, following Bosanquet, seems to do—tends to bring value under the same suspicion. (For myself, I do not think it can be so defined. Coherence is only one value, not the source of all values.) But, even so, I doubt whether it involves idealism any more than do the abstract universals of the new realist. In both cases 'meaning' is really conceived to be part of the objective world. The only question is as to what is the necessary condition of that meaning.

I have already indicated how the implications of Mr. Creighton's thinking might conceivably lead to the abandonment of idealism in either form. I have also suggested how it might point the way to a transcendence of the opposition of idealism and realism altogether. Let me now point out more fully this second possibility.

The abandonment of the existential (ontological?) point of view means, if it means anything, the acceptance of the standpoint of value and validity as ultimate. The object of philosophy is not, as our writer says, the description or explanation of existences, but the interpretation of meanings and values. The only assumptions of philosophy are those necessary if there is to be any interpretation at all. On that platform, it seems to me, there might be common ground for both idealist and realist. The standpoint of validity is above the battle.[1]

Let me take my start from the modification I felt compelled to make in Mr. Creighton's characterization of realism. Realism, I held, no less than idealism, actually postulates the necessary relation of value and reality, no matter what it may say. Everybody who lives in Everybody's World must do so. It is merely the prejudice of the unenlightened realist, that value is subjective and psychological, that prevents him from seeing it. But it is the same prejudice, on the part of the idealist, namely, that to be real things must satisfy us, that

[1] It is simply an unpardonable misconception to place the 'philosophy of validity' in the ranks of 'romantic idealism,' just as it is a begging of the entire question of the nature of 'value' to say that the 'primary insight,' spoken of in the course of this paper, is equivalent to the postulate that things must satisfy us, in order to be, or that things must be beautiful and good in order to exist.

leads him to transmute reality into mind. Both then have something very important in common. Both have a prejudice to get rid of, and both have certain values that they are interested in maintaining. Each is vitally concerned with what he conceives to be the *a priori* of a valuable world. For one the world is meaningless and valueless except on the postulate of independence. For the other it is equally meaningless except on the postulate of coherence. It is really a contest of values, and the two contestants both tend to assume that these values are incompatible. We may well ask whether this is really so.

As it happens, Mr. Creighton has faced this problem before in his discussion with Professor Sheldon on the question of the "Consistency of Idealism with Realism."[1] I do not propose to enter into that debate. I should, however, like to point out what seems to me to be a significant development in Professor Creighton's thinking since then. In that discussion, which may be characterized as Coördination *vs.* Subordination, Mr. Sheldon maintained the possibility of the coördination of these two 'axioms,' basing his argument upon an examination of the logical categories of identity and difference. Mr. Creighton in turn refused to admit that both could be equally true, insisting that one must be higher than the other, basing his criticism largely upon what he considered Sheldon's 'mechanical' conception of the relation of identity and difference. For him the principle of coherence must be ultimate. Now it seems to me the situation is really changed by Mr. Creighton's shifting of the problem so emphatically from that of abstract logic to that of interpretation of meaning and value. He has accepted all the values of realism, *specifically as values*, but he has refused the false interpretation of them. He has accepted all the *true values* of idealism but has eschewed the false inferences which 'mentalism' draws from them. Is it not implicit in his thinking that both shall be equally valid values and in this sense equally true, as Sheldon insists? This would not exclude, of course, the possibility that, as values, there may be reasons for placing one higher than the other, as Creighton does. This whole problem of coördination *vs.* subordination is a problem for itself and involves a complete analysis of the concepts of value and validity. Into that question I can not go here. My only object is to suggest what I consider certain implications of Mr. Creighton's most interesting and valuable paper.

Everywhere in recent philosophy one may observe signs of a tendency to transcend the time-worn opposition of realism and idealism. Some, like the Pragmatists, find it simply irrelevant, because we must

[1] *Vide The Philosophical Review*, Vol. XXI (1912).

all treat Everybody's World in the same way. Others, like Bergson and Baldwin, explicitly assert that they are neither realists nor idealists, and insist that the opposition is due to certain false assumptions regarding knowledge, to certain prejudices which it requires merely a biological or genetic analysis to dissolve. Still others, like Windelband and Rickert, who have most conspicuously transcended the ontological point of view, for a realm of objective validities and values, and have eschewed all mentalism, find it necessary to resort to long and ingenious arguments to prove, for reasons of piety, that they are still idealists. All this, in itself, is of course no argument for the position I am here maintaining. It does, however, at least show a tendency and create a presumption. It is a tendency, I feel with Bosanquet, that ought to work itself out—until it has either established itself as a tenable position, or shown itself ultimately untenable. That "the present discussion we feel obliged to carry on," and of which Bradley was so contemptuous, comes near to being "intolerable," as Külpe says, seems clear—at least to all those who are not content with a philosophy which is either a mere appendage to the descriptive sciences or an exotic kind of poetry.

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I feel indebted to Professor Urban both for his kindly appreciation of my article and for the important points to which he has called attention in his paper. At present I will confine myself for the most part to some general comments on the questions he has raised, which may help to make clearer some passages in my article. The conclusions that Professor Urban has reached in the series of articles lately published in the *Journal of Philosophy*[1] are sufficiently like those which underlie my own discussion to render further comparison of views desirable, and I hope at some future time to return to the subject. But, in spite of the agreement, I find difficulty at times in understanding Professor Urban's point of view—just as he has difficulty in understanding me—and so even after a good deal of consideration I do not always feel the force of the questions which he raises. This is undoubtedly due to the fact that my approach to the questions under discussion has been somewhat different from his, and that I have only a partial knowledge of the literature which has grown up in recent years on the subject of value, and to which he has made such important contributions. I am glad to do my best, however, towards clearing up these difficulties.

[1] Vols. XIII and XIV.

1. It is surely a mistake to attach great importance to names in philosophy, or to flaunt conspicuously party banners. But since some designations are unavoidable, I am inclined to think that the term 'Idealism,' with all its ambiguity, is no more misleading than any other name would be which might be substituted for it. And, as I said in my paper, I think that there are advantages in retaining a name that serves to connect speculative philosophy with its historical antecedents.[1] On the other hand, 'Realism' seems to me from an historical point of view a misleading name for the contemporary doctrines which have adopted this title. But I am not inclined to make an issue of any mere matter of names, even of names with historical associations, and if the abandonment of the term 'Idealism' would contribute to clearing up misunderstandings and allaying partisan feelings, this would be a small price to pay. Might we not expect, however, that if the term 'speculative philosophy' were substituted that this would in turn become an even more serious "stone of stumbling and rock of offence"?

If all these difficulties about names could by some fortunate compact be composed, we should not yet, I fear, be really 'beyond Realism and Idealism.' For, in spite of all our endeavors to reach understanding and agreement, these words just now stand for genuine issues in philosophy that cannot be ignored. I am grateful to Professor Fullerton for the compliment he intended to pay me in asserting that I am separated from 'Realism' "only by a word." But I should not think seriously of admitting such a statement. About the reality of the world, of course, there is no issue. All the volume of neo-realistic criticism of the idealistic position has seemed to me beside the mark so far as speculative Idealism is concerned. The real issue, however, between Speculative Philosophy and Realism is one of *philosophical aim and method*. This difference has far-reaching consequences; and seems, moreover, to involve the question whether the philosophizing of the past hundred years that is based on the critical movement inaugurated by Kant is not mistaken and illusory. On these fundamental issues my dissent from neo-realism is certainly more than verbal.

The real proposal of the neo-realists is that we shall abandon historical and speculative categories in philosophy and return to the atomistic logic of the seventeenth and eighteenth centuries, which drew its

[1] Mr. Urban "contends that, historically at least, idealism's interpretation" is in terms of mental states. I am unable to assent to this, and seem to find support for my own position when I recall names like those of Plato, Aristotle, Plotinus, Augustine, Erigena, Aquinas, Spinoza, Kant, Hegel, Green, Caird, Bosanquet, Pringle-Pattison, Royce.

main inspiration from mathematics and mathematical physics. Has philosophy the task of showing how the world is made out of hypothetical simple entities, or is its business to comprehend and appreciate the concrete world of life and experience?[1] The choice which is made at this point is a parting of the ways, and hereafter it seems impossible for one type of philosophy to refute the other. Their aims and problems remain distinct.

I have tried to show that on this issue the mentalists belong in the same camp as the neo-realists—have the same philosophical aims, operate with the same categories, and are separated from the former "only by a word." So far as explicit statements go, there is nothing *involving any principle* which would enable one to choose between them. This is evident from the difficulty which neo-realism has in maintaining itself. The neo-realist, in spite of his declarations about existing entities, frequently "tumbles back and forth" (to use Plato's phrase) between his professed view and mentalism, just because the dissent he expresses is only verbal,[2] and he still occupies the same ground as the 'mentalist.' The identity in the logical principle of these rival schools can be shown also by reference to historical systems. Berkeley and Hume, for example, remain the great exponents of the doctrine of external relations.[3]

2. The question of value has never seemed to me a special 'problem,'

[1] The question, of course, is not whether analysis and abstraction are not indispensable in philosophy, as in science, but whether these are not always to be subordinated to the interests of comprehension in terms of individual wholes—whether they are not to be used as instruments for gaining greater concreteness and comprehension of view.

[2] This seems to be very clearly illustrated in the writings of Russell. But in the case of other neo-realists, also, one can see how the ghost of 'mentalism' rises to trouble them, just because it has never been really 'laid.' Hence the discussions as to the 'numerical identity' of the idea and its object, and the demands for 'neutral entities' to facilitate crossing from one side to the other.

[3] On rereading what Mr. Urban has written, I see that he feels that my paper does not sufficiently take into account the fact that neo-realists are often better than their theory in the sense that they do in practice often take account of objective values. I admit that, fully. But I tried to deal with the principles of the doctrine rather than with the views and procedure of its representatives. It is of course true that since neo-realists are human beings who employ language to express their ideas, and are also often people of great ability, it is impossible for them to proceed as abstractly as the theory in its strictly logical form would demand. The use of language with its value connotations, if nothing else, stands in the way and prevents one from being a completely consistent realist. But in that connection it is interesting to note the efforts made by certain writers to remove this 'inconvenience.' The object seems to be to de-humanize philosophy completely by ceasing to employ language and falling back on symbols.

capable of separate treatment and solution, and I have failed, I fear, to appreciate some of the discussions which appear to proceed on this assumption. With Mr. Urban's conclusion, that value is a universal aspect or form of experience which is not definable in terms of anything else, I heartily agree: And when that is admitted it would seem to follow that questions as to whether it adheres in things or is merely in the mind are without meaning. To trace the various principles of value, such as the æsthetic, economic, logical, etc., and their modes of expression and relationship, such as art, society, and science, would seem to be identical with philosophy in the most inclusive sense of that term. If I have understood Mr. Urban correctly, he would accept this statement. It is in harmony with this view, that he insists in the articles in the *Journal of Philosophy* that value is neither an 'existence' nor a 'subsistence,' neither an entity or reality separately existing nor a quality attaching to any particular object. But having gone so far, he refuses to go on and connect value with the organization of experience. "Things, acts, feelings," says Dr. Bosanquet, "have value in as far as they are completely organized, do not break down, have members or parts which confirm and sustain one another."[1] Against such a statement Mr. Urban urges that "coherence is one kind of value, not the source of all values."

Now I think it possible that the difference here is partly one of terminology: that by 'coherence' he means what I should call formal or abstract coherence, not the coherence of actual experience. But surely such abstract coherence, so far as it has any existence out of the textbooks, is only formal and provisional, and gets its significance from its connection with the organization of experience as a whole in terms of a concrete universal.[2] It seems to me that when we take coherence or organization *as it is actually being realized in the movement of experience as a whole*, its principle is seen to include, as a constituent part of itself, the values which we sometimes separate out and treat in isolation, as æsthetic, or logical, or ethical. But if the mind is a whole, surely these separations cannot be regarded as ultimate, and none of these values are real in isolation, or apart from the organization of experience. The various forms of value have of course their

[1] *Principle of Individuality and Value*, p. xxxi.

[2] I am sorry that in the discussion with Professor Sheldon to which Mr. Urban refers I gave the impression that I was placing the emphasis upon 'abstract logic.' What I tried there to express was simply, that it is only formally that the principles of identity and difference can be separated, that actual experience always has in principle the form of a concrete organization in which these principles are united and mutually define each other.

own place and significance in experience, and are all essential in the sense that none of them can rightly be ignored. But it also seems to follow that none of them can be taken, as it were, *prima facie*—in terms of its own immediate claims—but has to be tried by the light of the concrete universal which is the principle of experience itself.

But I am unable to understand Mr. Urban's statement that "the term 'concrete universal' has historically a mentalistic connotation." This statement is all the more perplexing because I think that Mr. Urban would agree that to ask what the world would be without mind—if it were other than it is—would be to ask a question which has no meaning.

3. I should like to try to make clearer what I said in my paper about the relation of existence and value or meaning. Mr. Urban raises the question whether it is not possible to transcend the standpoint of idealism and realism by substituting for ontological categories the concepts of value and validity. As he himself has pointed out,[1] this is a large problem which has a great many important consequences. I can only indicate in a general way my own attitude towards it. In the first place, I think that the question is one of the relation of the categories by means of which we interpret experience, and, more particularly, of the relation of the more abstract categories to those that are more concrete and adequate. Now I have maintained that the category of existence by itself—bare or mere existence—is inadequate to the purposes of philosophy. But I have never thought that when things are taken more concretely as values, that they thereby cease to exist in the sense of being real. They become valued existences: the truth of the earlier category is not destroyed but given a fuller and richer content. 'The primrose by the river's brim' does not cease to exist when it becomes a value. The bare existences are no longer bare, but 'clothed upon' as it were, by the operation of the more adequate point of view. To put this from a slightly different standpoint, we may say that value is never abstract value, value apart from concrete things. What has value always appears or shows itself in individualized form. Neither mere existence nor mere 'validity' is a complete thought or a complete reality when taken by itself. Questions of value, accordingly, seem inseparable from questions regarding the nature of individualities.

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[1] "Ontological Problems of Value," *Journal of Philosophy*, Vol. XIV, No. 12, June, 1917.

# REVIEWS OF BOOKS.

*Philosophical Essays in Honor of James Edwin Creighton.* By Former Students in the Sage School of Philosophy of Cornell University. Edited by George Holland Sabine. New York, The Macmillan Company, 1917.—Pp. xii, 356.

All friends of Professor Creighton will be pleased by the tribute paid to him in this volume, written "in commemoration of twenty-five years of service as scholar and teacher"; they will feel also that his title to the honor is sufficiently authenticated by the number and standing of the "former students" contributing the twenty-two essays. Generally speaking, philosophical literature may be said to vary in style according as the motive behind it is literary, artistic, or scholarly and scientific. The present volume bears the mark of the scholarly and scientific tradition. The essays as a whole are characterized by thoughtfulness in the treatment of their subject-matter and give evidence of careful preparation; and they are, perhaps uniformly, well-written. But there is no special striving after artistic style or after novelty and ingenuity of thesis and argument. They are, however, not lacking in timeliness of topic. Half or more of them are occupied with questions raised by the philosophy of instrumentalism; and these, taken together, may be said to form an important contribution to the discussion of a present issue. On the whole, the book is appropriately dedicated to one who has done so much to preserve among us the traditional conception of philosophy.

The first seven essays, beginning with Professor Ernest Albee, of Cornell, on "The Confusion of Categories in Spinoza's Ethics," are historical. Mr. Albee, whom I have found rather difficult reading, though, in the end, illuminating, points to a clear contradiction in Spinoza between an indeterminate substance and a determinate world-order, between a logical, or metaphysical, conception of 'eternity' and a temporal conception, and, especially, between the parallelism of mind and body and, on the mental side, the significant distinction of active and passive mental states, or adequate and inadequate ideas. The result is to leave Spinoza's parallelism a total wreck, and to raise the question, indeed, whether, in view of the striking *contrast, prima facie*, between mental and physical, *i. e.*, between conscious actions and unconscious actions, parallelism is not, after all, the most gratui-

tous of all pragmatic conceptions. Mr. Albee is followed by Katherine Everett Gilbert on "Hegel's Criticism of Spinoza," who, while not disputing the confusion of the categories, defends Spinoza against Hegel's charge of dealing only with abstract universals, and at the same time gives us a finely sympathetic interpretation of Spinoza's idealism.

In his comprehensive analysis of the "Rationalism in Hume's Philosophy" Professor George Holland Sabine, of Missouri, makes a very interesting contribution to the study of that most elusive of philosophers. Mr. Sabine, however, treats Hume's rationalism as the unconscious survival of an exploded tradition. To me it has seemed rather that, in his elaboration (*e. g.*) of the distinction between relations of ideas and matters of fact, Hume offered (how wittingly, one cannot say) a most convincing argument for the Platonic theory of knowledge. In "Freedom as an Ethical Postulate: Kant," Professor Radoslav Andrea Tsanoff, of Rice Institute, undertakes to show that neither did Kant succeed in making his free will free nor, for ethical purposes, was it necessary to do so. The motive of the argument appears to be revealed in the following: "It is significant that the scientific tendency in recent ethics is one of comparative indifference towards the traditional libertarian controversy. This tendency on the part of contemporary ethical science indicates its determination to approach its distinctive problems, unimpeded by dogmatic prepossessions." Yes, I should reply, by all prepossessions but one; the prepossession, namely, which is implied in "the scientific tendency."

"Mill and Comte," by Nann Clark Barr, of the Connecticut College for Women, is a neatly executed study of contrast in philosophical temperament and point of view, showing that, in his social philosophy especially, Mill represents a sense of concrete realities as against the abstract egoism of Bentham, on the one hand, and, on the other, the even more abstract socialism of Comte; or, it might be said, humane intelligence as against scientific method. "The Intellectualistic Voluntarism of Alfred Fouillée," clearly and persuasively presented by Alma Thorne Penney, makes one wonder whether Fouillée should not count among the major prophets of philosophy. At least it seems that his doctrine that there is no will and no feeling which is not, simply as will or feeling, intelligence, should some time ago have brought illumination to 'modern psychology.'

The last of the historical papers, "Hegelianism and the Vedanta," by Edgar Lenderson Hinman, of Nebraska, strikes me as one of the most impressive in the volume from the standpoint of scholarship and

style, as well as one of the most interesting. Mr. Hinman takes up the charge made by the "critics and the educated public," that Western monistic idealists" "are essentially pantheists of the orthodox Brahmanical type" and answers it by showing that the comparison of Hegelianism and Vedanta is false if (as usual) it refers to the Vedanta of the 'orthodox' Sankara, and true only if it refers to the Vedanta of Ramanuga, the Vedanta of neo-Brahmanic reform, of Vishnuite theism rather than orthodox Brahmanic pantheism. But only the former is an abstract monism.

So much for the historical papers. Of the remaining fifteen essays I should say that ten, perhaps twelve, are to be described as dealing in some aspect with the issues raised by the school of philosophy whose doctrine is variously denominated as pragmatism, instrumentalism, functionalism, or experimentalism. Among these the only simon-pure pragmatist that I seem to find is Professor Henry W. Wright, of Lake Forest, who answers the question, "Is the Dualism of Mind and Matter Final?" by making this dualism a development of social life. In the region of 'no man's land' I should place Professor Robert Morris Odgen, of Cornell, who, in "Mental Activity and Conscious Content," seeks to establish a program for the study of the relation of structure and function in mind—a distinction which, though widely current, suggests to me a meaningless analogy with the structure and function of the body; and Professor John Wallace Baird, of Clark, whose exposition of "The Rôle of Intent in Mental Functioning" seems to me just, if somewhat belated. In the same region, acting, however, as emissaries of peace (without victory) from idealism to pragmatism, I place Professors Cunningham and Leighton. Professor Hollands, who sees a neglected possibility of virtue in pragmatism, and Professor Jordan, who concedes that pragmatists have grasped one end of the problem, I should nevertheless classify among the more hostile critics of pragmatism, including Professors Talbot, Schaub, and Townsend, with Professor Ellen Bliss Talbot, of Mount Holyoke, on the extreme right.

Miss Talbot's paper, on "Pragmatism and the Correspondence Theory of Truth," is a defence of the correspondence-theory representing, it seems to me, a somewhat superseded stage of discussion, but nevertheless effective in its challenge to the pragmatist either to admit a correspondent reality in the case of the other person—who will doubtless decline to serve merely as the pragmatist's satisfying experience—or else (if the pragmatist repudiates the suggestion of solipsism) to obliterate himself. "Functional Interpretations of Religion: a Critique," by Professor Edward L. Schaub, of Northwestern, strikes

me as a searching criticism, based upon genuine religious insight, of the theories of Coe, Ames, King, and Henke; whose derivations of religion from primitive impulse, while undertaking "to point out the conditions under which impulsive acts come to acquire a value for consciousness," yet treat the consciousness of value "as epiphenomenal rather than as itself a transforming and a creative factor within experience"—as if, for example, the *consciousness* of the sexual impulse, assumed by some to be the foundation of religion, left the impulse meaning just 'sex.'

In an essay on "Idea and Action" which is distinguished both for individuality of style and expression and for critical reflectiveness Professor E. Jordan, of Butler College, presents a rather impressive *reductio ad absurdum* of the 'actionist' philosophy in the form of an analysis, somewhat subtly ironical, of the actionist psychology and a survey of the achieved results of actionism in the fields of contemporary education, politics, and morals. Mr. Jordan claims (with some of the other writers) that not only does the actionist fail in the attempt to exclude the 'theoretical' interest from his list of psychological motives, but that success in the attempt would bring to a ridiculous conclusion his constant emphasis upon 'life.' A similar point is made in a refreshingly original paper by Professor Harvey Gates Townsend, of Smith College, entitled "Some Practical Substitutes for Thinking." The center of all value is the judging person, and the ideal of 'democracy' (for the pragmatist tantamount to 'life') is simply, if you please, the indefinite multiplication of such centers; a result not to be attained merely by an increase of the birth-rate, or what not, but only, if at all, along the hard and 'inefficient' road of trial and error for each person and generation of persons. Under the influence, however, of biological science, we have come to treat thinking as only a means for survival (*i. e.*, for efficiency), and thus to create 'substitutes for thinking': in the school 'habit-formation,' or vocational skill, and in society generally the cult of 'leadership' and the cult of the expert. Doubtless the instrumentalist will protest; yet if thinking is only a means to efficiency, one cannot see why efficiency without thinking should not be the social ideal.

"Some Comments upon Instrumentalism," by Professor Hollands, of Kansas, one of the ablest essays in the volume, though somewhat lacking in structure, is an acute and searching, yet not unfriendly criticism of the views of Professor Dewey, directed especially against his disclaimer of metaphysics and the gap in his philosophy which leaves consciousness an inexplicable fact in a naturalistic world. The

conclusion is that, as instrumentalism stands, its naturalism is at odds with its insistence upon moral values, and that instrumentalism ought to subordinate naturalism and become whole-heartedly metaphysical; it would then become a chapter in a new development of idealism. I fear, however, that Professor Dewey will regard this as a new edition of Swift's "modest proposal" for relieving the famine in Ireland.

More positive overtures towards pragmatism are made, as I have noted, by Cunningham and Leighton. Professor G. Watts Cunningham, of Texas, will convert the instrumentalists to the coherence-theory of truth by interpreting "Coherence as Organization" (his title) and thereby conceding the reality of time. A vain sacrifice, I fear. In some sense pragmatists have always stood for coherence, *i. e.*, from the relevant (always a present, forward-looking) standpoint. Coherence regarded as organization—or organization as coherence—implies, however, an effort to make the present and future continuous with the past in one 'logical' order, in which the claims of the past are no less important than those of the present and the future; while instrumentalism insists upon a point of view exclusively forward-looking. In other words, it all depends upon what you mean by the reality of time; for instrumentalism, I should say, the most real thing about time is that the past is dead. Professor Joseph Alexander Leighton, of Ohio State, in "Time and the Logic of Monistic Idealism," also stands for an organizational coherence. In tones that should be melodious to pragmatic ears he demonstrates the vacuity of a timeless absolute. But he admits that a timeless reality is only the inevitable result (as I understand him) of carrying the demand for continuity, a perfectly legitimate demand, to its logical conclusion; mathematically speaking, timelessness is the 'limit' of continuity. And he tells us that the problem of truth and reality is to unite continuity with discreteness. How this is to be done, we are not told in this essay. Here the prescription seems to be only: not too much continuity, if you please, and not more than enough discreteness. But we are promised fuller explanations in his forthcoming volume.

Two more essays, though not explicitly concerned with instrumentalism, betray an instrumentalist logic. The first is a very interesting paper by Professor Grace Andrus de Laguna, of Bryn Mawr, on "The Limits of the Psychical," the drift of which will be made clearer by a perusal of Mrs. de Laguna's later paper on "Phenomena and their Interpretation" in the last Philosophical Review. According to Mrs. de Laguna, there is no ontological dualism of physical and psychical and therefore no metaphysical problem. The physical is

simply one of many descriptive categories of which the range of application to experience is determined by empirical convenience; the psychical is another. 'Physical' explanation, it seems, is, strictly speaking, the kind of explanation attempted by the science of physics (*i. e.*, an explanation in terms of mass and energy); for which, however, such things or events as the German army or the Democratic victory, cabbages or kings, are simply non-existent. The whole question is, then, whether it is fruitful, or even possible, to define the behavior of an organism in terms of the 'physical,' as now precisely defined; if not, there is no problem of physical and psychical. If permitted, I should suggest a further question: Is it fruitful to attempt any systematization of the categories, *i. e.*, to define the various categories applied to phenomena, in the only way in which they can be defined, in terms of one another? If so, I am unable to see why, in the relation of the meanings of the categories, we shall not have the problem of the physical and the psychical fully reinstated. The other paper on "The Datum," by Professor Walter Bowers Pillsbury, of Michigan, who holds that "usefulness is the only measure of adequacy and adequacy is truth," shows, quite convincingly, that the datum for psychology is "the real experience as it exists at any given moment," whether simple or composite, pure or colored by interpretation. The acceptance of such a datum "would not in the least change the actual character of science or philosophy, but it would make for less dogmatism." One must regret that he has not shown us how an undogmatic datum is swallowed by the current psychology which makes sensation the foundation of thought.

Three papers remain: by Professor Emil Carl Wilm, of Boston University, who stands for the reality of "Selfhood" (his title) in the sense of "the felt togetherness, the continuity, of any present experience, with other constitutents of the conscious stream"; by Professor Alfred H. Jones, of Brown, who, under "The Revolt against Dualism" explains that "the salient feature [of the new realism] is the negation of the conception of substance"—hardly reassuring reading for those votaries of novelty; and by Professor Theodore de Laguna, of Bryn Mawr, on "The Relation of Punishment to Disapprobation," which teaches that the demand for punishment is the expression, not of moral disapprobation, but of insistence upon authority—since the demand for punishment expresses resentment, and moral disapprobation is generally not resentful. If space permitted, I should like to show how this conclusion, especially as embodied in the last statement, results (sadly, I should say) from the scientific view of ethics, which

treats conduct as an external fact; from which standpoint, of course, nothing—your fountain-pen breaking its point or your friend breaking his appointment—can properly arouse resentment. I shall have to content myself, however, with an observation upon Mr. de Laguna's analysis of cowardice. According to him, we loathe the coward but do not resent his cowardice. The term 'coward,' I should say, begs the question. Do we loathe (morally condemn) the timid man? Not, I reply, until his timidity renders him false to an obligation; and then we also resent his 'cowardice.'

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*Studies in the Problem of Sovereignty.* By HAROLD J. LASKI. New Haven, The Yale University Press, 1917.—Pp. xi, 297.

The claim of the modern state to absolute sovereignty has reached for most men a stage of something like self-evidence and that which in Hobbes's Leviathan was only a claim has become in great measure a fact: *Non est potestas super terram quæ comparetur ei.* After allowing for the inevitable exceptions, the general tendency both of political thought and political practice has been in this direction. The secular state has dwarfed more and more those other forms of association, ecclesiastical or economic, which once held a higher place in the estimation of thinkers and of the public. As a consequence the Austinian notion of law as the fiat of a sovereign and of sovereignty as undivided and unlimited, summarizes a genuine experience. It has, moreover, the merit of extreme clearness and seems to carry with it a sort of guarantee of law and order, for to admit that the right of the state may be limited by other rights is to admit that conflicts are not only possible but that they may even go to extremes. Nevertheless, the Austinian notion is highly abstract and is clearly not the product of a realistic or historical study of political processes, and it is quite possible that this theory of the state will pass, as have other theories no less self-evident in their day.

Mr. Laski's book comprises a series of historical studies which offer the data for a criticism of this theory of the state; it is a contribution to a criticism which has already gained considerable ground. It stands in the closest relation to Mr. John Neville Figgis's *Churches in the Modern State*, which discusses the theory of the state with reference to the claims of a particular kind of corporate body, the church. All of Mr. Laski's historical studies deal with important controversies in the course of the nineteenth century which brought church and state into opposition and in which the theory of absolute sovereignty, though

clearly and firmly stated by lawyers and statesmen, failed to make its way against the forces of conscience and corporate fellowship. Mr. Laski's book, therefore, is in the nature of an historical elaboration of Mr. Figgis's thesis. Both books, moreover, have a close and a fully acknowledged relation to the more general statement of the position by Professor Maitland in the introduction to his translation of a part of Gierke's *Genossenschaftsrecht*.

The controversies which Mr. Laski describes are widely different in setting and circumstance, but all involve the essential question of divided allegiance. The first is the disruption of the Established Church of Scotland in 1843; the second is the Oxford Movement; and the third is the Roman Catholic Revival in England. The remainder of the book is a study and comparison of Ultramontanism in De Maistre and Bismarck's *Kulturkampf*. If DeMaistre and Bismarck seem to make a strange combination, Mr. Laski is entirely successful in showing that Austinianism is both historically and logically one and the same, whether employed by the former in defense of the church or by the latter in defense of the state. In both cases there is conceived to be one overriding organization which has the right to exact an absolute and undivided allegiance.

So far as the historical instances are concerned, the issue is nowhere more decisively drawn than in the case of the Scottish Establishment. Here the church had behind it an unbroken tradition extending back to the very sources of modern liberalism, the dissenting congregations of the seventeenth century. Its logic, therefore, was clarified by a consistent recognition of the authority of the state in secular affairs, coupled with a consistent maintainance of the independence of the church in matters spiritual. Neither the Anglican nor the Catholic Church was equally fortunate in its tradition, and as a consequence neither the Oxford Movement nor the Catholic Revival was able with equal success to state and maintain a position free from Erastianism on the one hand and from Ultramontanism on the other. The seceding party in the Scotch Church, led by Dr. Chalmers, maintained a consistent position between these extremes, both of which assert the absolute sovereignty of one or other of the contending organizations. In civil matters, as Dr. Chalmers said, they yielded to the state "a submission unexcepted and entire," but "in things ecclesiastical, the highest power of our Church is amenable to no higher power on earth for its decisions. . . . There is not one thing which the State can do to our independent and indestructible Church but strip her of her temporalities" (pp. 38, 40). In short, Dr. Chalmers, while claiming

no supremacy for the church, denied the supremacy of the state; he asserted the existence of two authorities, each supreme in its own domain but impotent outside that domain. On the other hand, his opponents met this claim with the assertion of the omnipotence of Parliament. They denied that the relation between church and state was to be conceived as a compact between equals; as a corporation the Scottish Church was the creature of the law and could exercise only such powers as the state had delegated to it. Between these two positions no compromise was possible and the disruption followed of necessity.

The significance of this controversy and of others like it Mr. Laski finds in the fact that the state asserted a supremacy which it could not in fact make good. It succeeded indeed in frustrating the opposite claim and forced the disruption of the church, but the claim of the state was in no wise recognized. Its alleged supremacy remained theoretical and the purpose of Mr. Laski's historical studies is to emphasize the discrepancy between fact and theory. The starting-point for a revision of the theory, he holds, must be the admission that the real sovereignty of the state extends no farther than its commands will actually carry. Sovereignty rests upon the consent of the governed and this consent has always somewhere or other its limits. Even the simplest life has manifold interests and even the simplest social organization has wheels within wheels. All forms of coöperation command in some respects and in some degree the allegiance of those who cooperate, and consequently every man is the subject not of one allegiance but of many. These manifold allegiances inevitably present the possibility of conflict and the art of living is in no small degree the discovery of a practicable harmony of them. But it is false in fact to suppose that there is always one allegiance—that to the state—which will be accepted as a supreme obligation, and false in theory to suppose that harmony presupposes such a supreme allegiance. The harmony is a matter of practical compromise, not a hierarchy of interests dominated by one controlling interest. On its philosophical side, therefore, Mr. Laski's method is pragmatic and pluralistic.

His view of the state, as we have seen, has its roots in traditional liberalism; sovereignty is limited and defined by consent and ultimately some modification of natural right appears to be presumed. It would be quite misleading, however, to suggest that his view is merely a reassertion of the principle of consent. In one respect, indeed, it is based upon the integrity of the individual conscience which, if it is to be inviolate, must place a limit beyond which consent cannot be yielded.

It is not, however, with conscience as a property of the individual that Mr. Laski and the other thinkers with whom he is associated are mainly concerned. Their emphasis is rather upon the right of fellowships other than the state to mark out spheres of interest which the state must not invade. Thus Mr. Laski's historical studies all deal with the rights of churches, while for Professor Maitland the essence of the theory is expressed by the proposition that corporations possess real personality, as opposed to the fictitious personality, conceded and created by the state, which English lawyers as a rule conceive them to possess. It is manifestly the barest fiction to say that any church is created by act of legislature; so far as historical fact is concerned, many churches long antedate the state which is supposed to create them, and so far as effective organization is concerned, the members would never dream of referring their coöperation to the law. What plainly does create a corporation is the willingness of the members to coöperate, the loyalty which they freely render to the institution. And in the case of many fellowships, the members are born and bred in such loyalty; it is an indefeasible part of their personal life. Membership in some such fellowships is inevitable for all men and a condition of their developing individual personality. Corporate life, therefore, is in this sense prior to individual life; the corporations are going concerns with a life extending beyond that of their members and with a will of their own. This fact being presupposed, it easily follows that the state is at most *primus inter pares*. It is itself a corporation, created by the allegiance it commands, and having certain functions of adjustment and control, but it is neither temporally nor ethically prior to all other forms of organization and its sovereignty is limited by the undoubted fact that men's consciences will not permit them to sacrifice all other loyalties to that which they owe the state.

The strength of this view of the state lies on its face. It is vastly closer to the facts than the theory of absolute sovereignty and its whole manner of approaching its problem is in accord with the realistic tendency which is rightly coming to dominate social philosophy. The value of absolute sovereignty is no doubt hortatory rather than explanatory and Mr. Laski's historical studies show that the exhortation may be to evil as well as to good. The day has passed when political theory can afford to neglect the facts of social psychology or can be permitted to invent a psychology to suit its purposes. On the other hand, considered as a theory, the weakness of Mr. Laski's view perhaps lies precisely in its strength. He has as yet gone little beyond the fact that sovereignty is limited, but whether those limits can be

further defined or where they are to be drawn remains a question. The fact that the state cannot do as it pleases and must not be allowed to try will probably be admitted. But it is to be hoped that political theory can throw some light upon what it ought to do and so offer some guidance in those recurring conflicts which form the subject of Mr. Laski's historical studies. No doubt each case has to be judged according to the circumstances and consequences, but this is not to say that it must be judged by common sense without the aid of general principles. After all acknowledgments are made to the promise of the pragmatic point of view, the fact remains that its accomplishment is sometimes disappointing. It is possible to insist upon the uniqueness of situations to a point where principles disappear. It is to be hoped that Mr. Laski will succeed in carrying out those further studies in the philosophy of the state which his preface promises.

In particular, it is not obvious that the corporation or fellowship ought to be taken by political philosophy as a datum any more than the state. Even though one has got over or around the logical difficulties which absolutism finds in a plurality of ultimates, political theory cannot overlook the very serious practical difficulties in such a plurality. The state must and in fact does play a part in adjusting conflicts of authority or ownership which sets it somewhat apart from other corporations. And in the exercise of this function it is clear that the state must on occasion go very far in interfering (as some may think) with the internal workings even of churches. It cannot be held that the amount of justifiable interference is settled merely by the existence of the corporation or that this is the same in all cases. The internal organization of the corporation may be a matter of vital concern to the public outside the corporation, in a case, for example, where it controls large amounts of property or performs important educational functions. In such a case the state will scarcely be permitted to escape responsibility by saying, as counsel argued in the case of the Scottish Church, "In matters ecclesiastical, even if the church acts unjustly, illegally, *ultra vires*, still the remedy does not lie with this court" (p. 46). Without imagining that the state can maintain in all cases a perfect justice, one may still pertinently ask, Is it likely, in view of the organization of this corporation, that it will habitually act unjustly, illegally, *ultra vires*? Is there a reasonable presumption that its official acts are open to the criticism and review of its well-meaning members? A democratic society may well feel justified in insisting that a corporation's internal organization shall be consonant with the organization of society at large. For it may be practically intolerable

that a dissenting member shall have no recourse except to abandon the organization. There is no escaping the fact that the great accession to the powers of the state in modern times has come in large part from the fact that the people trusted the state more confidently with their interests than they did many of the older organizations which the state superseded or subordinated. The theory of corporate personality is unfortunate in that it suggests that this personality does not need to be criticised and evaluated. It is only fair to say that Mr. Laski emphasizes this aspect of the theory less than Professor Maitland.

The suggestiveness of Mr. Laski's book is in no small degree due to its timeliness. It represents a tendency in political theory which may be discerned in much present-day thinking about public questions and which is likely to have important practical consequences. Mr. John A. Hobson has noted the rapid extension of guild-socialism in England since the beginning of the War, as well as the probability that labor and capital will at least try some experiments with the coöperative control of industry. It is probably true that a parallel growth of syndicalism is taking place in this country and that a similar policy of coöperation will have to be tried if the War continues. Should the organization of industry in such units become a permanent fact, there is no doubt that the state and the law will have to take cognizance of it. On the one hand, the producing unit will demand some measure of self-government and independence; on the other hand, the interests of consumers will have to be represented in some way and the state would seem the logical power to undertake this duty. Again, in a widely different field, one can easily conjecture that the near future will see some far-reaching experiments with federalism in international relations; if this should become an accepted fact of political life the notion of the state would have to change accordingly. Mr. Laski's book may be said to be at home in a peculiar sense in the United States, the land of divided jurisdiction. It is a valuable contribution to effective and realistic thinking about the great public questions of the day in which an American at least may be pardoned for believing that American experience is to play a worthy part.

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*The History of European Philosophy: an Introductory Book.* By WALTER T. MARVIN. New York. The Macmillan Company, 1917.—Pp. xiii, 439.

A history of philosophy conceived and fashioned on new lines cannot

fail to arouse an anticipatory interest in the mind of the reader; and whatever else may be said of Professor Marvin's attempt to infuse new life into the teaching of philosophy, it has certainly resulted in an interesting book. The novel character of the work arises from the author's desire to avoid certain faults that he sees in most text-books on the history of philosophy. The ordinary text-book, he says, "is an epitome of the doctrines of the great philosophical thinkers, and is both unintelligible to the beginner and too detailed to be learned and remembered by him" (p. vii). Furthermore, it presents these philosophical doctrines without showing their relation to the psychological problems, to the political, social, and economic movements, and to the literature and art of the period which gave them birth. In order to avoid these two faults, "I have tried," says the author, "to confine my book to major philosophical movements and to approach the study of any philosophical movement from the general history of the era, and I have tried to indicate the relations between the philosophy of the age and the other great spiritual and social changes that were taking place" (p. viii). Again, Professor Marvin believes that a text-book for those who are beginning their study of the history of philosophy "should include as few details as possible, should leave much to be taught directly by the instructor, . . . and should presuppose that the student is to do a large amount of outside reading" (p. viii). In accordance with this belief, the presentation of philosophical doctrines, in the strict sense of the word *philosophical*, is greatly limited; and each chapter contains references providing for extensive outside reading.

What is philosophy? The word "is the name of certain customs," habits of thought, or beliefs. "A philosophical belief or manner of thought differs from any other by being *logically general*," *i. e.*, by being capable of wide application, and by being "*logically fundamental*," *i. e.*, by forming the basis of many other beliefs. Thus the Ptolemaic theory and the doctrine of the conservation of energy are philosophic doctrines, and "such a difference in art as that between the Greek and the Gothic" may "be called philosophical. In short, whatever is highly general or logically fundamental or nearly fundamental in man's thoughts . . . is philosophical" (pp. 15 f.).

Guided by this conception of the term *philosophical*, Professor Marvin has written his history of European philosophy. His account of philosophical doctrines, in the ordinary sense of that phrase, is exceedingly meager; but considerable space is given to the discussion of important scientific discoveries and of their influence upon the intellectual life of Europe, while some attention is also paid to the great

social and political forces that have helped to shape Western thought. Part I, which is introductory, discusses such topics as the changes in man's mental nature produced by civilization and the relation between primitive thought and science. Part II deals with Ancient Philosophy —including the Early Christian. Part III, "Modern Philosophy," devotes one chapter to "Medieval Thought" and has chapters on "The Age of Discovery," "The Modern Philosophical Movements," "Rationalism and Naturalism," "Phenomenalism, Positivism, and Idealism," "The Doctrine of Evolution," "Romanticism," and "Present Philosophical Tendencies."

Professor Marvin's book should of course be judged with reference to what it tries to do. A history of philosophy it certainly is not, and the question might be raised whether a better title could not have been found for it than the one that has been chosen. Nor is it a study of a few great names in the history of philosophy. In Part II, to be sure, special attention is given to five of the leading Greek thinkers, and there is exposition of some of the salient features of their doctrines. But in Part III, most of the great modern philosophers are mentioned only incidentally, and in no case do we find a philosophical system presented as a whole. Again, we could not without qualification call the book a study of the problems of philosophy. For some of the problems which have been most important in their effect upon the development of thought are scarcely touched upon. What the book has aimed to do, apparently, is to present the main currents of philosophic and scientific thought from the time of the Greeks to the present. But one may incline to doubt whether even this purpose is adequately fulfilled. A work that purports to trace the development of philosophic thought—even though *philosophy* is so interpreted as to include all scientific principles of a highly general character—should take more account than this one does of certain questions—*e. g.*, as to the nature of God and man's relation to him—which have played an important part in molding the thought of Europe. This lack is most marked in Part III.

From this point of view, the book seems to me somewhat one-sided. In his effort to do justice to the part that scientific theories have played in philosophic thought, the author tends to pass over very lightly—except in a few cases—the strictly philosophical problems, with the consequence that he fails to show the extent to which they have influenced the development of human thought. But what he fails to do has of course been done by other books, whereas it would not be easy to find another book, so compact, so clear, and so readable, that gives us what this one does.

The book is designed to serve primarily as a text-book. Looking at it in this light, I think that it ought to be of great value for reading in connection with a text-book on the history of philosophy, but that—for reasons that have been indicated—it cannot take the place of such a text-book. If the instructor gives, in his lectures, as full an account of the various philosophical doctrines as his students need, he may perhaps dispense with a text-book which covers the same ground and may find Professor Marvin's book a useful supplement to his own lectures. But if one prefers to take much of the classroom time for first-hand study of selected portions of the works of representative philosophers, one will probably feel the need of some more adequate account of the theories of these philosophers than Professor Marvin gives us and will therefore wish the student to have a text-book on the history of philosophy. That it is possible to write a text-book which is not too intricate and detailed to be of real service to the ordinary college student has been happily demonstrated once or twice by American authors.

Professor Marvin conceives the history of European philosophy as in the main the struggle of two rival tendencies—the intellectualistic or rationalistic and the romantic or mystical. In Greek philosophy, rationalism is represented by the Ionians and the atomists; romanticism by the Pythagoreans, Socrates, and Plato. In modern philosophy, the movements are more complicated; but in general one may regard Galileo, Bacon, Descartes, Spinoza, Locke, and Hume as representatives of rationalism, while Rousseau, Kant, Fichte, Hegel, and Schopenhauer may be classed as romanticists. Phenomenalism is in a sense a development of rationalism, but in another sense is sharply opposed to it, while the philosophy of evolution, though "largely scientific and intellectualistic," is "also in no small measure romantic in origin" (p. 312).

The interesting chapter on "Present Philosophical Tendencies" deals with the past fifty years of philosophical inquiry. Romanticism and evolutionism, which have contributed much to the character of contemporary philosophy, have been discussed in previous chapters. In this chapter the author considers four other factors, which he believes to be of prime importance. (1) The discoveries in mathematics, physics, and biology have greatly modified the older naturalism. While mechanistic naturalism may "be victor in the long run," scientists of to-day are by no means sure that everything can be explained in terms of it. (2) The older rationalism is giving place to experimentalism and pragmatism. (3) Cartesian dualism, which has dominated

psychological thought since the seventeenth century, and which has had as out-growths phenomenalism and idealism, is being seriously threatened by behaviorism and the new realism. (4) The individualism of earlier political and economic theories is giving place to an implicit socialism. These four movements are discussed in some detail and in most interesting fashion in the chapter.

In the "Conclusion" Professor Marvin ventures the prediction "that the great philosophical movement of the twentieth century will be an endeavor to combine and harmonize intellectualism and romanticism. . . . The issue between religion and naturalism will be solved by the average twentieth century thinker through romanticism added to naturalism, or through some method of harmonizing the two. Regarding rationalism and subjectivism it is more venturesome to predict. Pragmatism and experimentalism are certainly growing tendencies of our intellectual life; and as long as the intellectual world about us is rapidly growing in information they seem liable to remain powerful tendencies. However, should there be a slowing down of the rate of successful scientific research or should the very increase of information force upon us the systematizing and organizing of our vast information, then rationalism will no doubt become again a powerful tendency. If I mistake not, we see such a tendency in mathematics to-day. Regarding subjectivism my own conviction is that Cartesian dualism and the subjectivisms that are its outgrowth are becoming a greater and greater embarrassment both to science in general and to psychology in particular. If this is true, the twentieth century may solve a philosophical problem that has embarrassed science since the days of Democritus" (pp. 430 f.).

With this we must end our survey of Professor Marvin's book. As I have said, it is in my judgment not a history of philosophy or even of the main problems of philosophy. But if one will send the student elsewhere for his account of philosophical doctrines and will give him this book for the sake of the sidelights that it throws upon the development of philosophic thought, one will find it, I believe, of great value. From beginning to end, it is interesting, clear, and stimulating; and it will open to the student many vistas that the ordinary text-book on the history of philosophy does not give him.

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# NOTICES OF NEW BOOKS.

*A Beginner's Psychology.* By EDWARD BRADFORD TITCHENER. The Macmillan Company, New York, 1916.—pp. xvi, 362.

It is a rare treat to read a textbook which sounds as though the author had thoroughly enjoyed himself in writing it. If Professor Titchener did not, in Rooseveltian phrase, have a 'bully good time' in composing this book, all literary beacons are deceptive. It is put forth to meet such needs as its author felt when "thirty years ago" he began his own study of psychology. The tone is highly intimate and personal, not to say fatherly at times, and the pervasive atmosphere of the whole is that of the family fireside. Its success in guiding the first psychological steps of the ingenuous American youth will largely depend on the degree to which the latter resembles the author in his intellectual interests, point of view and capacities as he was in the late 'eighties.' Without wishing to be cynical, a somewhat extended experience leads the reviewer to fear that few beginners of psychology in American educational institutions possess the mental maturity necessary for an appreciative use of this book. Those to whom it appeals will profit immensely by much which it contains.

In his early pages the author expounds the distinction between the scientific point of view and that of common sense. This discussion is followed by an elaboration of the definition of the subject matter of psychology as "the whole world as it shows itself to scientific scrutiny with man left in"; or again: "psychology gives a scientific description of the whole range of human experience correlated with the function of the human nervous system" [p. 14]. I have no special quarrel with these definitions, which resemble certain predecessors with which we are familiar;[1] but I suspect that only the more intellectually ripe students will find this introduction to a new and unknown field particularly significant or attractive. The book is decidedly best fitted for those who have a marked native bent toward psychology, or those who have already made some beginning in it and have thus established a live interest. It should, perhaps, have a secondary title: Written For Able and Interested Readers. Such students will find it highly stimulating and instructive.

Professor Titchener's general views are too familiar to require extended discussion. Suffice it to say that in this book his obligations to Wundt are on the whole more in evidence than in any other of his recent writings. What bearing, if any, the war has on this apparent fact, I do not know. To mention but a single point: the author accepts with less reservation than before, if my memory serves me, the Wundt-Lehmann doctrine that specific feeling states, like pleasure, are correlated with fixed organic changes in circulation and respira-

[1] In my judgment, however, they make it difficult to orient satisfactorily certain aspects of ethics.

tion—a doctrine which the reviewer would regard as in no better repute now than it was five years ago. Indeed, he adopts a modified form of the tridimensional Wundtian doctrine of feeling itself, enunciating what is in essence an ingenious compromise. Of *feeling qualities* there are but two, *i. e.*, pleasantness and unpleasantness; but of 'sense feelings' (feelings combined with sensations, especially kinæsthetic and organic) there are many, and they may be conveniently grouped, as Wundt groups his feeling qualities, under six headings, three pairs of opposites, to wit, agreeableness-disagreeableness, strain-relaxation, excitement-calm.

For a long time past the reviewer has urged this type of conception so far as concerns strain-relaxation, *i. e.*, that these were states which like agreeableness-disagreeableness, that often combine with them, possess marked significance for the subjective interpretation of experience, but which, analytically considered, were dominantly characterized by kinæsthetic and organic sensory activities. The same contention holds for some phases of excitement-calm, but in this case there are many perplexing problems which cannot be lightly dismissed. Before accepting our author's new usage we may accordingly await a fuller exposition of his reasons for grouping all these phenomena as *sense feelings.*

An interesting change of emphasis on a matter of fundamental attitude appears to the reviewer to be found in the apparent elimination of 'explanation' as part of the psychologist's responsibility in dealing with his science. In certain of the author's earlier works 'explanation' of mental processes in terms of nervous process was no small part of the psychologist's obligation.[1] Now his science is reduced to an almost purely descriptive basis, plus the obligation (for reasons not altogether clear, if *explanation* is not really involved) to *correlate* its phenomena with nervous system functions. It may be that this change involves only Professor Titchener's terminology. But I am disposed to think that it is more than this and that it marks another step in the process of the author's movement toward a more objective and de-personalized conception of psychology. Certainly the chapter on the self is as cold-blooded and as remote from the conventional ideas of the self as one could well devise; nor does one often catch sight, as one passes through the author's pages, of even a remote suggestion that the sensations and feelings, of which so much is heard, are the property of an experiencing self. Whatever the import of the change (and the author may well deny the relevancy of any of this comment), at least it indicates that Professor Titchener has not yet reached a stable equilibrium in his fundamental outlook on his science. He is moving, and that is always an item of interest in one who deserves attention.

In passing, it may be remarked without suspicion of carping, that while the author does not ostensibly 'explain' specific mental processes in terms of nervous action, but only *correlates* them, he does not hesitate to offer *explanations* of a decidedly common-sense character. His explanation of illusions of memory on pages 188–9 is a case in point.

[1] I am writing at a distance from libraries and I must trust my memory in these matters and forego specific reference to chapter and verse.

Minor matters of interest which may be mentioned are (*a*) the omission of specific reference to the supposed motor distinctions of memorial and imaginal imagery reported by Perky and accepted by Professor Titchener in one of his previous works; (*b*) the statement (as against certain of the Behaviorists) that movement by itself is no index to mental process (p. 232), a formula which if true puts a quietus on a psychology of the larynx and vocal cords such as we find heralded by our 'objectivists'; (*c*) the acceptance on grounds which seem to me quite as inadequate as ever (I have put forth my criticisms in several papers) of the negative inferences of Sherrington and Cannon on James's doctrine of emotion; and (*d*) the apparent acceptance of a substantially unmodified form of the Helmholzian theory of audition, despite the grave difficulties with which it is confronted.

This is not the place to open up again the controversy centering on *meaning* as a problem of psychology. As is well known, Professor Titchener will have none of it. Of course, if you so draw your definition of a scientific psychological fact as to exclude the phenomena of meaning, then inevitably such phenomena become taboo for the orthodox psychologist. But the process by which this result is achieved has always seemed to me to savor of 'strong-arm' methods, to be arbitrary and essentially artificial. I see no reason to change this conviction after reading the author's presentation of his case. I may misunderstand his position, but if not, I should unhesitatingly enlist under Stout's banner so far as concerns this issue.

The book is simply organized and its materials are readily accessible. Well-considered questions are appended to each chapter and a brief but useful bibliography. In some instances, notably the chapter on the self, one might perhaps wish that citations had been made of scholarly presentations of views more squarely opposed to the author's, such, for example, as Miss Calkins's.

The printer and publisher have done their part of the work well and the result is a book pleasant in the hand, with a well printed page agreeable to the eye. Although often rated low, these are no mean assets in a book for student's use.

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*The World as Imagination* (*Series I*). By Edward Douglas Fawcett. London, Macmillan and Co., 1916.—pp. xliii, 623.

This extended work forms the essential nucleus of a metaphysical idealism of the imagination. It follows earlier treatises by the same author. It prepares the way for further developments of his principle in later writings. Apparently Mr. Fawcett has moved from a metaphysical idealism of the classical type by way of current empirical doctrines to an 'ideal-realism' of which the Cosmic Imagination—termed for brevity the C.I.—constitutes the center and the norm. Imagination gives concreteness, whereas the Hegelian idealism was vitiated by its exclusive devotion to abstract rationality. Imagination in the psychical individual shows novelty and actual creation—hence imagination is just the ground fitted to explain a world in which new beginnings

have at last been recognized as among the given data in the case. And yet the author never loses the inborn metaphysical instinct of his class. The Idea is the thing—only it is imagination, not reason. And from this ground all can be explained; nay, the writer undertakes as few others in this hesitant age to furnish an outline of the cosmos, from the constitution of the primal unity all the way to a solution of the problem of evil.

Not all the universe, indeed, is construed in the present volume. The author prefaces his own doctrine by a discussion of method and an historical account of earlier and divergent endeavors to solve the problems which he has made his own. Then follows the analysis of the C.I. as essentially consciousness with its two contrasting phases, on the one hand 'underlying continuity,' on the other, 'content,' which is always 'loose' or even internally in conflict to a greater or less degree. The argument proceeds to consider further aspects of the C.I.: its activity, its 'superlogical' character, its immanent purposiveness, its affective or emotional character, its explanatory relation to time, space, matter, energy, cause, chance, conservation and change. The latter part of the volume is given to a more particular discussion of the world of nature and its evolution; including on the way an assertion of sentiency as the characteristic quality of all the units of creation from the simplest up, and of the existence of finite deities, distinct from the infinite ground (the C.I.) of which there may be many in relation with the various possible systems which make up the whole. The book concludes with "First Steps toward a Solution of the Problem of Evil" based on these doctrines, in which, however, the author, as in some other connections, modestly disclaims complete success for his speculative venture.

As already intimated, a not inconsiderable part of Mr. Fawcett's argument is historical and critical. And in this he displays his skill. It is not necessary, or possible, in every case to accept his critical results; but often they are marked by insight. His reiteration of his objections to the mechanistic theory grows wearisome; nevertheless, they are in substance sound, even though the critic seems unaware of the possible nihilistic outcome of his destructive analysis of fundamental scientific concepts. The argument to the failure of Hegel's panlogistic scheme is valid, if not novel; the doubt arises when the critic seeks to fasten panlogism on every idealistic system of the rational type, and again when he leaps from the rejection of Hegelism to the enthronement of the C.I. as fitted by its a-logical character to supply concrete elements which the older theory lacked. And this last point brings us to the crux of the case. It is on the positive, rather than the negative side of the discussion that the author fails. The ground of the universe is Cosmic Imagination. Surely, then, in a work devoted to this thesis, the reader is entitled to an analysis of imagination and a discussion of its laws. Yet the reviewer has been unable to discover in the present treatise so much as a definition of imagination in any concrete terms. The Glossary, indeed, contains the following: "IMAGINATION, Cosmic. *See* GROUND. The ocean of the infinite, at once conservative and creative, conceived as analogous in character to our *imagining*. Also called the 'C.I.' or Imaginal IDEA as contrasted with the Hegelian *Logical Idea*. See IDEA,

the" (p. 613). But what is our imagining? Are we to take it as given in unreflective self-consciousness and merely to analyze out so many of its principles as relate to the thesis in hand? This seems to be the author's method, resulting in attention to creative activity and a-logical or superlogical quality as the chief characteristics of imaginative thought. But again the question presses, is this procedure adequate? Is concrete human imagination creative in the literal sense of the term? And if we are to emphasize its a-logical character, are we not obligated, as an essential preliminary, to discuss the belief common to psychologists that even its vagaries are subject to psychical laws?

Similar difficulties manifest themselves in connection with other phases of the argument. Sometimes definition is lacking, sometimes proof, the establishment of essential principles being taken in an extraordinarily easy way. In epistemology, the author rightly notes the presence in perceptive and imaginative experience of connective relational elements, but with many other thinkers, especially the empiricists of the day, he fails to see that this view voids the concept of reason as a function exclusively abstract. As a metaphysician, he finds idealism or ideal-realism so obvious a doctrine and so conclusive that he spends little effort in its defence. In the philosophy of nature, it is held sufficient to bring forward conservative and creative tendencies in the C.I. as an explanation of the mingling of stability and change among the phases of the world. The facts of relative permanence and real change are recognized in a way for which one may well be grateful: their deduction is another matter; it will appeal chiefly to those who are in *a priori* agreement with the author's cosmic scheme.

Finally, the literary character of this treatise is remarkable. On the side of clearness the writer rarely leaves much to be desired. At times his style rises to a high level of expressive statement. But the diction is often strained, or, with the grammar, definitely at fault: supposal, imaginal, appulse, to adequate are examples of the former tendency; under the second head, the reader is constantly confronted by the use of aware as a verb active, or even in the passive mood.

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*Études de philosophie morale.* By Charles Werner. Paris, Fischbacher, 1917.—pp. vii, 248.

This book is composed of seven articles and lectures written at different times and for different occasions. All of them converge, however, on the general problem of the nature of philosophy and its relation to religion; consequently there is a decided thread of unity running through them. In fact, the religious drift of the whole series is so marked that the spirit of the book might perhaps have been better expressed by some such title as Studies in the Philosophy of Religion. All of the essays, with the exception of the two devoted to a consideration of the religious implications of the views of Boutroux and Renouvier, have been published elsewhere.

The first study, "Morality and Religion," is an exposition and criticism of

Kant's ethical views with which the author finds himself in substantial agreement. He raises against Kant's argument for the existence of God objections which have often been advanced before. But he thinks that the argument can be reinterpreted so as to be made sound in principle, the reinterpretation being based on a more concrete view of reason—a more intimate connection between the intelligible and sensible worlds which Kant at first separates so sharply but which later he is forced to merge. This more concrete view of reason necessarily leads philosophy on to religion; the category of God becomes morally necessary. "Car on ne peut considérer la nature de la raison sans poser l'existence de l'Esprit absolu, que l'on a coutume d'appeler Dieu" (p. 18). Religion and morality, therefore, cannot without violence be separated from each other; the moral life blends with the religious life, and a theory of morals leads logically to theology.

Two of the lengthiest and most interesting essays in the book are those devoted to an explication and criticism of the religious implications of the views of Boutroux and Renouvier. The point of chief interest in the case of Boutroux is his attempt to justify the claims of religion by appealing to the contingent in the world of facts. Renouvier denies the Kantian conception of the thing-in-itself and offers no substitute, rejects the ideas of infinity and continuity, and inconsistently attempts to make room for God in his system by reviving the principles of the Leibnizian monadology. The trouble with both philosophers, the author thinks, is to be found in their misconception of reason. Rational necessity, for Boutroux, is mechanical necessity, the sort of necessity demanded by the Kantian *Verstand*; hence contingency (freedom) and necessity are for him wholly incompatible. The contingent is consequently indistinguishable from the arbitrary and lawless, and so his religious views rest on a foundation of sand. Renouvier, likewise, would have been led to a truer view of the nature of reality, would have seen the impossibility of robbing the phenomenon of its inner essence, and would have been spared the necessity of finally contradicting his phenomenalism, had he followed in fact as well as in profession the deeper drift of the Kantian philosophy—the tendency which finds explicit expression in the systems of Fichte, Schelling, and Hegel.

The remaining studies are concerned with such themes as Rousseau's religious views, the essentially religious character of æsthetic feeling, knowledge and faith in the philosophy of Kant, and human destiny in the 'philosophy of action.' This last essay is an interesting exposition, with special reference to the religious problem of course, of the views of M. Blondel as set forth in his book entitled, *L'Action: Essai d'une critique de la vie et d'une science de la pratique* (1893). The conclusion of the whole matter is an old idea: "La vie humaine est portée par l'inextinguible désir de l'absolu: elle réclame Dieu" (p. 57). The short discussion of æsthetic feeling is an ingenious attempt to show that Schiller's definition of æsthetic feeling logically involves the admission that it possesses an essentially religious character.

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*The Self and Nature.* By DEWITT H. PARKER. Cambridge, Harvard University Press, 1917.—pp. ix, 316.

This book is an earnest and, in some ways, suggestive study of some of the basic problems of metaphysics. Its scope is indicated by the problems considered: the self and mind, personal identity, perception, mind and body, space, time, causality, nature of knowledge and the status of universals, theory of relations, unity of minds. The point of view of the whole book is determined by the conclusions of the first two chapters; consequently, the present notice will confine itself to a brief statement and criticism of these conclusions.

The effort made by the author here is to define adequately the self, its unity and continuity, and mind or consciousness—these two terms are used interchangeably. Between mind, or consciousness, and the self the author draws the following distinction: mind is the "whole of things findable," while the self is only a part of this whole—the part, namely, which may be identified with what are termed 'activities': "striving, feeling and thinking, in their various modes and with their attendant images and organic reverberations" (p. 23). Just as there is a distinction between mind and self, so there is a difference between the unity of mind and the unity of self. "The primary unity of mind consists in the contact of self with content: I am conscious of, have in mind, whatever I am in contact with" (p. 25)—by 'content' here is meant everything in mind which is not the self (p. 5), and by 'contact' is meant "that unique being together of content with the self which everybody who observes his own mind will understand" (p. 24). What, then, is the unity of self? "The unity within the self is open for any man to inspect. . . . The unity is an interweaving of activities. It is nothing besides them [sic]; it is a growing together of them, an interpenetration of them. Just as colour and shape are grown together in a flower, so thought and feeling and striving are grown together in the self" (p. 26). As regards personal identity, we must be less slow to admit that identity is a fact of experience which is as indisputable as any fact can be. "I claim that identity is found in experience. Everybody admits that we seem to find it, that we have an 'impression' or 'feeling' of it; I claim that this feeling is a fact" (p. 43). The reason why we are inclined to doubt it is primarily because of a false conception of the nature of time: we assume that from moment to moment experiences die beyond the power of resurrection, and that, as a result, our successive experiences are only similar and not the same. "But a difference in moments does not involve a difference in existences; for the same thing may exist at many different moments and quite irrespective of whether they are continuous or discontinuous. The very same experience that was can exist anew at separate moments of time; and these reappearances are not duplicates of the old; they are just the old recreated . . . . the very stuff of the old is born again, and when reborn is the same past thing which was destroyed and had ceased to exist until now" (pp. 40–41).

With these conclusions the present reviewer finds himself partly in agreement and partly in conflict. The distinction drawn between consciousness

(mind) and the self is, to my mind, important and may aid in the clarification of the situation as regards the vexed problem of the mental and the non-mental. In my own thinking some such distinction has been of decided assistance here. Whether the author succeeds in drawing the distinction strictly in accordance with the facts is an open question; but I cannot but feel that his distinction at least points in the right direction. The discussion of the unity of the self, however, leaves much to be desired. In the first place, too much of the burden of analysis is thrown upon 'everyman'; more analysis on the author's part would have been of assistance in getting at his point of view and would probably have disclosed the inadequacy of that point of view. Of course, the whole conception turns upon what is to be understood by the metaphorical 'interweaving' of the activities; until this term is defined—and there is nothing in the discussion which aids in its definition—the whole point of view is vacuous. And, furthermore, until the fundamental question, Why should these activities 'interweave'? is answered the problem of the unity of the self remains unsolved; for surely the logically basic element of that problem is the unity *per se*. The fact of the matter seems to be that the author's whole discussion of the problem is biased by the initial prejudice that the self is and must be somehow once and for all given; in other words, he seems hardly to have freed himself from the traditional 'substance' hypothesis.

Some other interesting chapters in the book are those which deal with the problems of perception, nature of knowledge and existence of universals, and relations. The discussions here are searching and suggestive, though naturally they are colored by the author's view—to me unsatisfactory—of the relation between self and 'content.' The consideration of the problem of knowledge is especially interesting, but it does not seem to me that the author succeeds in making plausible the doctrine of truth as resemblance.

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The following books also have been received:

*Encyclopædia of Religion and Ethics.* Vol. IX. Edited by James Hastings. New York, Charles Scribner's Sons, 1917.—pp. xx, 911.

*The Greek Genius and its Influence.* Edited, with an introduction, by Lane Cooper. New Haven, Yale University Press, 1917.—pp. ix, 306.

*Logic as the Science of the Pure Concept.* By Benedetto Croce. Translated by Douglas Ainslie. London, The Macmillan Company, 1917.—pp. xxxi, 606.

*Problems of the Self.* By John Laird. New York, The Macmillan Company, 1917.—pp. xiii, 375.

*An Introduction to the History of Science.* By Walter Libby. New York, Houghton Mifflin Company, 1917.—pp. x, 288.

*The Problem of Life in the Russian Novel.* By Radoslav A. Tsanoff. The Rice Institute Pamphlet, Vol. IV, No. 2. Houston, Texas, The Rice Institute, 1917.—pp. 153.

*A System of Natural Theism.* By LEANDER S. KEYSER. Burlington, Iowa, The German Literary Board, 1917.—pp. 144.

*The Athenæum Subject Index to Periodicals. 1916.* Theology and Philosophy. London, The Athenæum, 1917.—pp. 48.

*Devoirs et Périls Biologiques.* Par LE DOCTEUR GRASSET. Paris, Félix Alcan, 1917.—pp. ix, 546.

*Manuel de Psychiatrie.* Par LE DR. J. ROGUES DE FURSAC. Paris, Félix Alcan, 1917—pp. viii, 509.

*Le Courage.* Par MM. LES DOCTEURS LOUIS HUOT et PAUL VOIVENEL. Paris, Félix Alcan, 1917—pp. vii, 358.

*Teoria e Storia della Storiografia.* Per BENEDETTO CROCE. Bari, Gius. Laterza & Figli, 1917.—pp. vi, 292.

*Lecciones de Antropologia.* Por JULIAN RESTREPO-HERNANDEZ. Bogota, Arboleda & Valencia, 1917.—pp. xxii, 227.

# SUMMARIES OF ARTICLES.

[ABBREVIATIONS.—*Am. J. Ps.* = *The American Journal of Psychology*; *Ar. de Ps.* = *Archives de Psychologie*; *Ar. f. G. Ph.* = *Archiv für Geschichte der Philosophie*; *Ar. f. sys. Ph.* = *Archiv für systematische Philosophie*; *Br. J. Ps.* = *The British Journal of Psychology*; *Int. J. E.* = *International Journal of Ethics*; *J. of Ph., Psy., and Sci. Meth.* = *The Journal of Philosophy, Psychology, and Scientific Methods*; *J. de Psych.* = *Journal de Psychologie*; *Psych. Bul.* = *Psychological Bulletin*; *Psych. Rev.* = *Psychological Review*; *Rev. de Mét.* = *Revue de Métaphysique et de Morale*; *Rev. Néo-Sc.* = *Revue Néo-Scolastique*; *Rev. Ph.* = *Revue Philosophique*; *Rev. de Ph.* = *Revue de Philosophie*; *R. d. Fil.* = *Rivista di Filosofia*; *V. f. w. Ph.* = *Vierteljahrsschrift für wissenschaftliche Philosophie*; *Z. f. Ph. u. ph. Kr.* = *Zeitschrift für Philosophie und philosophische Kritik*; *Z. f. Psych.* = *Zeitschrift für Psychologie und Physiologie der Sinnesorgane*, *I. Abtl. Zeitschrift für Psychologie*. — Other titles are self-explanatory.]

*De la méthode en histoire de la philosophie.* V. DELBOS. Rev. de Mét., XXIV, 4, pp. 369–382. (II, Analysis and Reconstruction of Doctrines.)

If we had before us the complete, authentic works of a philosopher, and wished to analyze his system for the purpose of reconstructing it in a form conveniently adapted for communication, we might proceed on a very simple rule. We might read his meaning literally from the very words he uses. But this is a very difficult task when the philosophy we are studying is of a scientific nature, or possesses any degree of originality. Any special enquiry of importance involves a departure from the common use of terms, and the employment of a special technical terminology. In the case of an original philosopher, this terminology becomes an artistic creation, highly technical in two ways. First, it embodies the technical terminology which has already grown up around his subject; second, it contains new technical words and phrases, invented for the purpose of expressing his own individual conceptions and constructive theories. As a guide for the analysis and reconstruction of systems, therefore, we require an historical dictionary of philosophy. Elements of such a work are found in Eucken's *Geschichte der philosophischen Terminologie im Umriss* (Leipzic, 1879), and in Baldwin's *The Dictionary of Philosophy and Psychology*. But both these works give us the common meanings of philosophical terms, and not the successive definitions of them by different philosophers. The latter task is attempted in Eisler's *Wörterbuch der philosophischen Begriffe und Ausdrücke* (Berlin, 1899), while Lalande's *Vocabulaire* is an attempt to fix the meaning of present-day philosophical terms. Other works on particular philosophers, such as Bonitz's *Index Aristotelicus* (1870), Ast's *Lexicus Platonicus*, Schutz's *Thomas Lexicon*, and Schmid's *Wörterbuch zum Gebrauch der Kantischen Schriften* (1788) would be useful to consult. The meaning of words, however, in the terminology of a great philosopher, does not

remain constant. It varies as new points of view develop in his system; and often purely accidental changes, highly complicated in their origin, are inevitable, as we see, for example, in Kant's use of 'transcendental.' Still more important than this, every real philosophy is organic in its nature; each term can only be understood when all the others are comprehended; each occupies its own individual place in the system. If philosophical systems were merely the logical development of well-defined premises, an abstract method of interpretation might suffice, but, since they are organic and unique, involved and complicated in their premises and their aims, recourse must be had to the facts of the philosopher's life; the development of his philosophical ideas; his personality and temperament; the intellectual motives which inspired his reflection; the history of his times, his country, and his civilization. Although analysis is always useful, therefore, we must recognize that every philosopher is a human personality, a philosophical spirit; that all the influences which have been brought to bear upon him have been mediated, to use Hegel's phrase, by this spirit; that analysis and decomposition are really for the sake of reconstruction and explanation of doctrines for their own sake. One other method of great importance in this connection is that of investigating the relation of a philosophical system to its predecessors. This interaction must not be considered as external and artificial: a philosopher does not passively accept or learn the systems of his predecessors, he reacts to them, remolds them, and gives them a new meaning. Thus the development of an historical system is a spontaneous growth, in which the old is transformed and realized by the new. But the study of the history of philosophy is not only the study of facts, it consists to a large extent in the interpretation of facts, and here the historian has a very difficult task, which involves all his powers of sagacity and penetration. He must not seek to modernize historical systems, nor attempt to over-unify them. He must recognize that each system has an internal, intrinsic value which cannot be reduced to formulae, communicable to others. When the study of history becomes conscious of the methods it employs, it is indispensable, not only for the philosophical education of the mind, but also for constructive philosophical research.

F. W. A. MILLER.

*On the Nature of Memory-Knowledge.* J. B. BAILLIE. Mind, N. S. XXVI, 103, pp. 249–272.

The question is a logical and not a psychological one, namely, what is the character of the contribution made by memory to the judgments constituting human knowledge. The problem is important because the view has hitherto largely prevailed that knowledge of the present, and especially knowledge of the external world, furnishes us with the criterion of truth. The object to which the memory-judgment refers is a specific part of our past experience, which is regarded as held together in the continuity of the individual. The object is a specific object selected by attention but not necessarily involving the conscious reference to other objects. It is objective in the sense that it transcends

our conscious present and remains the same after repeated changes in our individual history. It is not objective in the sense of possessing universality. By the past in memory judgment, is meant *what has been*, in so far as we affirm it as having been what it was because we made it so. By the continuity in memory knowledge, is meant the actual way in which identity and change are blended in the individual experience. This does not necessarily involve precise reference to a time sequence. But this continuity of the individual experience is the essential nature of the specific object in the memory judgment. It is true that we have a vague general 'feeling of continuity' often; but this must not be confused with the continuity of the memory judgment, which is a definite, articulate reference to some specific part of our experience. While it takes effect in the present, the memory judgment refers to the past; and it is the reality of the individual mind as a unity which holds these two factors together. Thus the memory judgment involves an explicit reference to the self, and furnishes a specific way by which self-consciousness may be realized prior to full social consciousness. Psychologists who ascribe self-consciousness exclusively to social experience should take into account facts like memory judgment in which it is always, in a sense, myself that is remembered, by whom the judgment is made, and for whom alone it has significance. The memory judgment is ultimate for knowledge in that one can never get behind it except to fall back upon another memory judgment. Of course the value and certainty of memory knowledge is always contingent. It can never give organized, inferential knowledge but merely collocation and sequence. Still, these isolated judgments convey truth; and no amount of conceptual deduction and disproof can destroy the truth derived from memory knowledge. In conclusion the author points out that no theory of knowledge is adequate which takes its start solely from knowledge of the present or of the external world; also that objectivity cannot be interpreted solely in terms of universal (common) experience; and finally that the recognition of unique, individual judgment as a mode of truth must involve the acceptance of intuition as knowledge and the recognition of the individual as an 'irreducible center of mentality.'

MARIE T. COLLINS.

*Les Attitudes mentales et la Mémoire.* A. LECLÈRE. Rev.Ph., XLII, 8, pp. 105–151.

Mental attitudes, being identical with consciousness as a 'whole,' influence and determine the recall of memories, which have a certain, relative independence of the particular, successive states of consciousness. This independence is due to the fact that most memories have a certain feeling accompaniment. The psychic elements in consciousness are affective, intellectual and motor, the affective being predominant. Now it is noticeable that mental attitudes or 'total' consciousnesses, as well as most memories, have an affective tonality. When we endeavor to recall a memory, we experience feelings, which are at first, perhaps, very vague and weak, but which gradually become clearer and more intense until they finally perfect and assert themselves, and then the

desired memory is recalled. This phenomenon is very significant, for it indicates that the recall has taken place by affective association. This would lead us to conclude that a particular memory is really a past mental attitude, which can be recalled by the feelings connected with it. The affective accompaniment of any memory can thus be regarded as its representative element. Such an affectional association is quite different from a purely intellectual, imaginal one. An association that is entirely intellectual is quite rare, for most intellection has an emotional correlative. Feeling is generally not controlled by intellectual activity since this is the very element which governs recall, automatically or semi-automatically. The fact that some feelings are rejected is due to inhibition by stronger and more active feelings. For man's most habitual state is that of non-reflection and thus the tendency is to gratify instincts and respond to habits. These instincts were fully conscious at some time in the past but became fixed for that very reason. Feelings represent all the possibilities of the recall of memories, while voluntary, intellectual activity is a particular action, expressing a unique, determinate mental fact. For, psychologically, the ego has no power in itself over mental states but simply joins itself to them. The retention of memories depends upon the affective quality of the original experience and upon the capacity of the individual for experiencing feelings. The interest or indifference connected with the original experience may be said to be its affective quality. If the original attitude is indifferent or non-affective, the experience is retained poorly or not at all. Interest or what may be called attention is necessary for retention. A study of a language in which we are interested results in a very rapid comprehension of it, while the reverse is the case when we are indifferent. So interest, which is synonymous with feeling and attention, determines mental attitudes, memory and power of recall. Mental attitudes change with age, for age modifies affectivity. Feelings are very pronounced in children up to the tenth year and any emotional complexes experienced during that period are remembered in after years with startling vividness. For children experience feelings in all their immediacy and fullness, and consequently feelings occupy for them the 'total' consciousness. These early emotive experiences are constantly being called back to consciousness and may dominate the life of a weak individual. The present is nearly always given content from the past, for we scarcely ever improvise. And if one has changed much one remembers with difficulty. It is noticeable that the strife or reconciliation of mental attitudes depends, in part at least, upon æsthetic tastes which are found to be the most stable and fixed of our psychic experiences. The sources of æsthetic appreciation lie so deep and are so numerous that we have neither inclination nor desire to change them and so they become fixed and act as a sort of catalytic agent in the functioning of mental attitudes. The æsthetic tastes, being thus organic, determine whether or not a particular mental attitude shall be formed. Of course there are some very different mental attitudes which do not oppose each other and, in such cases, there may be a great rigidity of æsthetic taste and at the same time very unstable, changing mental attitudes. The phenomenon of

recognition takes place by a disintegration of the 'total' consciousness into mental states and the consciousness of self or of the ego, which nearly always has its own affective tinge or accompaniment. This feeling element in the ego or self, having a peculiar, independent quality of its own, comes into opposition with the feelings in the psychic states of consciousness and, by this functioning, the phenomenon of recognition results. This peculiar, independent affective element in the ego can only be explained by the fact that mental attitudes, though continually changing, are also growing and developing and thus a memory in its original, exact form is forgotten and only comes back to us by means of the ego which, by its very strangeness, becomes recognized. Thus recognition is a proof of the growth and development of mental attitudes. It permits us to see memory in function, the recognized present being only what has been. The ego then represents the most personal and intense feelings and is a summation of all past mental attitudes. The motor element in memory plays a but little understood part for it is peculiarly correlated with physiological facts. In regard to intellectual activity, it is found that even most abstract ideas are susceptible of emotion, and the coldest of mental attitudes, if held up to ridicule, soon ceases to be so. Occasionally the ego may transcend its feelings and become purely objective, correcting past illusions and creating great modifications in the present mental attitude. But as this phenomenon occurs very rarely, it may safely be said that the feelings dominate the psychic life by setting up mental attitudes.

EDGAR DE LASKI.

*Time as Succession.* J. C. WORDSWORTH. Mind, N.S. XXVI, 103, pp. 317–328.

The problem of the article is to show that the idea of time as a succession is a creation of the memory and that in reality the moments of time are no more successive than the parts of space. Three main arguments are advanced in support of this position. (1) The parts of time cannot be successive because they are independent units, all identical in value; whereas a genuine succession must be like the number series, in which each member is of higher value than those preceding it and includes them in itself. (2) If time were a succession, the terms 'present' and 'now' would be meaningless; for no signification could attach to a 'present' lying between two nonentities, past and future. If unextended, such a 'present' would be nothing at all; while if extended, it would exist as a single block of indeterminate length. (3) Lastly, the idea of time as a succession arises from a misconception due to the fact of memory, that our minds contain impressions of events on one side of the present and none on the other. When we reach the conclusion that time as a succession is only a creation of the memory, we come to see that all times are parts of an eternal 'now' and that no one moment can take precedence over another.

MARIE T. COLLINS.

*Le rôle des tendances affectives dans l'attention et dans la conscience.* E. RIGNANO. Rev. Ph., XLII, 10, pp. 325–344.

There are two types of senses, (1) non-distance receptors; (2) distance receptors. In the first type the arousing of the affective tendency and its satis-

faction are practically simultaneous. In the second type the affective tendency is maintained in suspense throughout the series of preparatory acts and reactions which are preliminary to the consummating act in which the satisfaction of the affection is attained. This state of suspense, of unsatisfied desire, can only be accounted for through the opposition of a contrary affective tendency. This contrary tendency is the product of the disappointment and disillusionment resulting from the failure of past consummating acts, which were too hastily instituted under the impulsion of the original affective tendency. It is such a condition of affective contrast which develops that state of affective tendency maintained in suspense and constituting the state of attention. This affective antagonism is revealed in the examination of typical states of attention, from the apparently automatic reactions of lower animals to the subtlest choices of modes of action in the scientific researches of man. The object in attention is thus approached from two different points of view and results of great variety and precision are obtained. Where there is no affective contrast there is no state of attention. This can be seen in cases of sudden or extreme emotion, and in monomania, where hallucinations and illusions are easily aroused. Consciousness is likewise a phenomenon derived directly from the affective tendencies. Psychological investigation shows that the same act may be either conscious or unconscious, although the same group of sensations accompanies each performance of the act. No past psychic state is conscious or unconscious by itself, but only in relation to some present psychic state. This relation consists in the at least partial co-existence of the affective state of the first with that of the second, and the at least partial superposition or fusion of these more or less analogous states. This relation of consciousness may thus be prolonged through a series of acts, of which each member is conscious by reference to another member of the series. It is also quite possible to have two series, related within themselves, but not related to each other. One of these will then be the conscious series, the other the unconscious. This explains the normal condition of dual personality, in which either series may in turn be conscious or unconscious, depending upon the relations of the affective tendencies of the psychic states. In pathological cases of dual personality, each series constitutes a conscious series for one phase of the personality, while remaining an unconscious series for the other. In unusual instances one series may be conscious in relation to a second, while this second will have no consciousness of the first. Consciousness is thus not a psychic state in itself, but the characteristic of a relation between two or more psychic states.

A. M. Tomfohrde.

*L'evolution dans ses rapports avec l'éthique.* A. Lynch. Rev. Ph., IX, 9, pp. 201–228.

In order to deal successfully with a subject of such range and significance as that of the present article, one must neglect all the theories of the various schools, free oneself from all prejudices, and confine oneself to the general

tendencies and the essential principles which alone are really able to provide a criterion of the degree of evolution in its relation to morality. The first requisite is to raise oneself above evolution itself in order to attain a new point of view. Some biologists, because of their remarkable progress in a special field of human knowledge, seem to hold that they have already reached this point of view; having won their reputation in a special field of research, they invest their childish notions of religion, ethics, and philosophy with the sanctity borrowed from this reputation; but does an extended knowledge of the facts of biology necessarily justify dogmatic utterances on philosophical questions? The one way to connect and relate the results of the special scientists in a logical and sensible whole, in which their real meaning becomes apparent, is to abandon the conception that philosophy is a domain of repose, abstracted from life, and to encourage the special scientist himself to become a philosopher. For example, if Darwin's theory of the struggle for existence and 'survival of the fittest' is taken as a philosophical truth, expressing the ultimate nature of the world, it is easily translated by a military bureaucracy, such as exists in Germany, into a justification of war as fulfilling the real purpose of nature. But Darwin was always a scientist, never a philosopher; and, as Huxley has pointed out, his formulæ do not take account of the ability of animals to communicate with each other, their capacity for coöperation, and their faculty of transmitting without interruption ideas from one generation to the next. Further, the principle of the 'survival of the fittest' reduces in the last analysis to a mere tautology, because under any given set of conditions the fittest are those who are able to survive. Herbert Spencer's formula, although it is more comprehensive, is no less inadequate. Simplicity and complexity cannot be taken as terms in the estimation of progress, and thus Spencer leaves us without a criterion of evolution. Whether the physical constitution of man is more complex than that of the animals is an indifferent question. Man is an animal who uses tools, who thinks. These faculties, not possessed by animals, give man the power of controlling the forces of nature, and this is the true criterion of evolution. Systems of controlling and coördinating activity may be developed in many ways, and offer many standards, but if they are evaluated from the point of view of the control of nature, a simple principle of evaluation is supplied. The efficacy of this control may be measured in terms of man's ability to look forward and backward. It reveals science as one of the highest accomplishments of man. But man's intellectual development is always conditioned by his moral development, which forms the basis of society, the main determinant of scientific progress, in which the "Tripod of Ethics,—Truth, Energy, and Sympathy,"—appears as the true principle of the worth of human life.

F. W. A. MILLER.

*Les conditions et les limites individuelles du bonheur.* G. BAUCHAL. Rev. Ph., XLII, 8, pp. 152–170.

To be happy, the individual must investigate his own personal character and determine his limitations. Happiness is purely an individual affair; it

is referred to no objective standard; religion and virtue are irrelevant to it. To interpret happiness we must then seriously consider the various and diverse types of mankind. The elements of unhappiness or happiness are to be found in the particular, cognitive states of consciousness which, taken in order of their intensity, include emotions, sensations, pleasant and unpleasant sentiments and some unnameable ones. The pleasant emotions are those most favorable to happiness. Every satisfied or unsatisfied inclination gives rise to these various states of consciousness. The robust appetite experiences satisfaction in the various odors of foods while the excesses of the gourmand are accompanied by regret and shame, even though the physiological effects are not felt for some time afterwards. The proper subordination and coördination of inclinations depend upon the individual's scale of values. Such a scale is fundamentally necessary for the happiness of the individual and must depend upon the individual's particular character. For the intellectual, who suppress physical desires, intellectual pursuits occasion the greatest happiness. For the type with superabundant energy and fine health, mediocrity in intellectual matters and in personal ambitions is the desirable attitude. Aptitude and interest in practical affairs when joined with good health is another possible happiness complex. For the chronically sick, an attitude of resignation is most satisfying. It is possible that the same scale of values may be applied to different types, though they would naturally lead to very different consequences. This evaluative judgment is a special faculty which accompanies all states of consciousness, guiding and comparing these states and thus determining them. In other words, this faculty acts as a standard or measure. We can determine graphically by this standard our pleasures and pains for at least a short period of time and guide our lives accordingly. And it is only by means of this self-limitation, that we can hope for happiness.

Edgar de Laski.

*Purpose As Systematic Unity.* Ralph Barton Perry. The Monist, XXVII, 3, pp. 352–375.

An act, in either human or animal conduct, is a purposive act if it involves these three necessary elements: first, a general type of action of which the particular act in question is judged to be a case; secondly, an agent possessed of a stable tendency to perform acts of this type; and, thirdly, a judgment made by the agent that this particular act is a case of the general type. There are several common errors regarding purpose. There is the 'pathetic fallacy' or human weakness which prompts one to extend to all agencies involved in any event that purposive type of determination which really holds only for one's own participation in it. Again, we are often disposed to attribute purpose to any structure that shows systematic unity. This unity may be either existent in an object or objects, as the flavor that pervades any historical period; or it may be ideal, as the universal ellipse which explains any concrete elliptical curve to be an ellipse. However, in neither case is there purpose, for in neither case does the unity determine the existence of the parts. The uni-

versal ellipse does not explain the fact that particular elliptical curves exist; nor does the flavor that pervades any historical period determine the existence of the events of that period. It is often argued that since nature shows unity, there must be an agent that designed this unity, just as a watch presupposes a watchmaker. From such reasoning by analogy it follows that the most mechanistic parts of nature would afford the clearest cases of purpose, and man who is least mechanical would be the least a creation of divine design. As a matter of fact, man's inventions are imitations of nature's most mechanistic parts; and if we are to reason by analogy at all, we should proceed from nature to human conduct, rather than from man to nature. Finally, it is commonly reasoned that in proportion as a combination of parts (such as our universe) is remarkable it gives evidence of design. But, unfortunately, when there is only one case of the combination in existence (as is the case with our universe) it makes no difference how heavy the odds are against that particular combination, it may, nevertheless, logically be attributed to mere chance.

JULIUS COHEN.

*A Criticism of Coördination as Criterion of Moral Value.* HENRY NELSON WIEMAN. J. of Ph., Psy., and Sci. Meth., XIV, 20, pp. 533–542.

Not the coördination, but the organization of interests we consider as the criterion of moral value. This organization may be a moral procedure, for it may be the functioning of several interests as one. Indeed, organized conflict is essential to so moral an interest as the eagerness constantly to extend experience. In the especial case of desiring to extend one's own experience so as to share another's, organization is necessary, for coördination is inadequate. Valuable conflict, however, is internal and not external; for internal conflict, in which one embodies one's opponent's purpose without yielding one's own results is development; whereas external conflict, in which two neural processes are obstructed, is valueless. Furthermore, internal conflict generates creative activity, the necessary condition of which is plasticity of the undetermined association centers. Such plasticity may be affected by ill health or fatigue, or a tendency highly specialized. But the creative interest, which is morality's highest achievement, needs such a problem as conflict presents. In fact, any sensori-motor response which unites diverse qualities is an organized and not a coördinated reaction. Hence, if behavior, to be moral, had to be coördinated, it would be impossible to react to the universe as a unit; and yet, such reaction is necessary from a religious standpoint. Morality seems, then, to require organization as well as coördination of interest.

MARJORIE S. HARRIS.

*Kant's Moral Theology.* JOHNSTON ESTEP WALTER. Harvard Theological Review, X, 3, pp. 272–295.

Kant rejected the traditional arguments for the existence of God—the ontological, cosmological, and teleological. He gave up these arguments because of their supposed deficiencies; and, by denying the knowableness of

realities outside and independent of the mind, he would seem to have abandoned every ground for arguing to a divine cause. Though Kant, therefore, asserts the impossibility of a speculative or scientific knowledge of God, he maintains that there is left to us a noble theism with its foundations in the practical as opposed to the theoretical reason. Accordingly, his moral theology amounts only to this: that we must assume a God as the necessary procurer of happiness for the virtuous, while at the same time we are aware that we have no knowledge of God as a reality. Kant's theism goes counter to his ethics contending as he does in the former that there must be a God to support virtue by holding forth the reward of happiness, and in the latter that men should act purely out of regard for the moral law, irrespectively of happiness. He seems at variance with reality also when he assumes it to be feasible for men to act as if there were a God while disclaiming real knowledge of Him. From these and other reasons, one is led to think Kant's moral theistic proof as oddly conceived and frail an argument as philosopher ever offered for belief in God.

ERNEST BRIDGES.

*The Electronic Theory of Matter.* WILLIAM BENJAMIN SMITH. The Monist, XXVII, 3, pp. 321–351.

English scientists have demonstrated the fact that the cathode rays in the Crookes tubes are streams of particles, and they have been able to seize the individual corpuscle, to determine its velocity, the amount of its electrical charge, and its mass. The mass of the corpuscle or electron proves to be about 1/1700 of the mass of the smallest atom. Now, all motion takes place in an all-pervading ether. When a body is moving in this ether it also sets the ether itself into motion. The motion or swirl of the ether increases the mass of the moving body. In case of the moving corpuscle the increase in mass due to the swirl of the ether has been found to be $\frac{2}{3}k\,(e^2/r)$. But '$r$,' the radius of the corpuscle, is so minute that this increase, or so-called electrical mass, represented by the formula $\frac{2}{3}\,k\,(e^2/r)$ assumes important proportions. Indeed, it has been found that the calculated relative increase in the electrical mass (due to the rising velocity of the corpuscle) is constantly equal to the observed relative increase in the whole mass. Hence we must conclude that the electrical mass of the corpuscle is its whole mass, for if there were any non-electrical mass it would certainly not increase with the increasing velocity. Hence, the mass of the electron is not located (at least in any appreciable degree) in the electron itself, but only in the ether around it. We can, therefore, no longer affirm the principle of the conservation of mass, for masses vary constantly with the velocities of the electrons. In order to establish a relation between the electron and the atom we must recall that there are rays of positive as well as of negative electricity, that are deflected by a magnet oppositely to the negative cathode rays. For them the ratio $l/m$ never exceeds 10,000, which is also the value of hydrogen ions in electrolysis of dilute solutions. It is natural, then, to figure that the positive corpuscle is a sphere of positive electrification about the size of an atom. Such a sphere must have a balancing amount of negative elec-

tricity, which we imagine to be distributed throughout the sphere in equal units of negative electricity. And since the atom is permanent, this arrangement must form a system in stable equilibrium. Now, if we name the tendency of such a system to shed a negative electron 'corpuscular pressure,' we can deduce the necessary existence of a double system of valency; positive valency being the greatest number of corpuscles an atom can lose without an abrupt fall in corpuscular pressure, and negative valency the greatest number it can gain without a sudden rise in pressure. It now also becomes evident that if all possible forms of such systems or equilibriums should be realized as chemical elements, of necessity these elements would fall into a series; and we are thus brought to the periodic law of Mendelyeev, which now becomes a necessity of the mechanical laws of equilibrium, and not a mere empirical observation. The author further suggests, but does not carry out in detail, some applications of the electronic theory of matter in astronomy, especially in the explanation of such phenomena as comet tails, the corona, the Aurora Borealis, and the *Gegenschein*. Also in biology, the theory of panspermia seems more plausible because of the electronic theory. And who can tell if it may not help to solve the mysteries of Mendelism and Mutation?

JULIUS COHEN.

*The Nature of Scientific Matter.* STEPHEN C. PEPPER. J. of Ph., Psy., and Sci. Meth., XIV, 18, pp. 483–490.

In the neglected endeavor to reach the 'least common denominator of facts' of scientific matter, there are three stages: a reduction of facts to the data of one sense, thence to units, and thence to elementary units. This common sense, so important in the task of the organization of sensations, is sight. An examination of experiments on sound makes this evident, for where the data are visual, the results are most accurate, whereas only in the neglected subject of loudness are the results solely in terms of auditory data. Furthermore, the tendency is to reduce all facts to visual data, and thence to units. In this second stage there are many sciences, each definable by one or by a few units. Hence a reduction to elementary units is necessary. Already we have two processes working in this direction: the consolidation and differentiation of units which show that the elementary units will be the centimeter, gram, second and radian. Thus sensation is transformed into scientific knowledge through the reduction of crude facts to visual facts, thence to scientific units, and thence to elementary units.

MARJORIE S. HARRIS.

*An Attempted Formulation of the Scope of Behavior Psychology.* JOHN B. WATSON. Psych. Rev., XXIV, 329–352.

The present article presents the material to be used in the first chapter of the author's forthcoming book, *Human Psychology*. It defines psychology as a science of behavior, having as its goal a formulation, through systematic observation and experimentation, of a series of principles or laws which will enable it to tell with some degree of accuracy how an individual or group of

individuals will adjust themselves to the daily situations of life as well as to the uncommon and unusual situations which may confront them. Psychology regarded in this way is something which everyone has been using more or less all his life, without calling it psychology. The practical psychology of control began as soon as there were two individuals on earth living near enough together for the behavior of one to influence the behavior of the other. The serpent controlled Eve's behavior by offering her the delectable apple. Common sense has discovered many truths about behavior by hit-and-miss methods, such as how to draw a crowd, etc. We may gain knowledge of behavior by instituting a known situation and watching the response. Or again, we may obtain data on an unknown situation by watching the response. These two methods are mutually supplementary. In all cases, however, there is great need of acquaintance with the individual's past. Common sense includes a crude but genuine psychology. Psychology is essentially concerned with adjustment to the environment, with stimulus and response. Its goal is, precisely, the ascertaining of such data and laws that, given the stimulus, psychology can predict what the response will be; or, on the other hand, given the response, it can predict the nature of the effective stimulus. Simple controlling factors are properly called stimuli, while combinations of these make up situations. Response has often been considered in terms of needless technicalities and metaphysical concepts, such as purpose and end. Psychology is not concerned with these. Its aim is an unprejudiced study of the individual's reaction possibilities. Under response is to be understood the tota striped and unstriped muscular and glandular changes which follow upon a given stimulation. Responses may be conveniently divided into four classes: (1) explicit habit responses (unlocking a door, tennis playing, violin playing); (2) implicit habit responses ('*thinking*,' *i. e.*, *subvocal talking*, language habits, general bodily sets and attitudes); (3) explicit instinctive responses (observable instinctive and emotional reactions); (4) implicit instinctive responses (endocrine secretions, circulatory changes). Psychology is very closely related to physiology, but is distinguished from the latter by the fact that physiology deals with the functions of special organs (although not necessarily in isolation from each other), while psychology deals with the responses of the organism as a whole. Where the two sciences overlap their standpoints and methods are identical. Psychology should be of special significance to medicine and psychiatry.

W. CURTIS SWABEY.

*Relation between Functional and Behavior Psychology.* A. P. WEISE. Psych. Rev., XXIV, 5, pp. 353–368.

The concept of evolution in biology led men to seek a psychology which would no longer be content to study the structure of mental states, but would study the development and genesis of mind as well. This led to a functional psychology. But functional psychology is unable to show how mental processes influence neural processes. Thus for those who questioned the causal

effectiveness of consciousness the problem became: How can human behavior be understood solely in terms of the receptor-effector processes in the neuromuscular system? Lack of precision on the part of the functionalists led to the differentiation of behaviorism. The functionalists are not the only group of psychologists who write essays rather than scientific expositions, but as long as we excuse ourselves on the ground that others are equally guilty, and persist in substituting rhetoric for science, we should not complain if our work is regarded with suspicion by the biologists. It is the neural correlate of perception which controls action rather than perception itself. Conscious processes follow neural processes rather than lead them. In fact, introspection is simply a minor reaction consisting of speech responses in psychological terminology. Since this minor reaction does not control the major responses, mental processes do not control bodily processes, and there is no problem as to the relation between mind and body. Behaviorism disregards the entity the functionalists call consciousness, and regards the movement which withdraws the hand from the scorching stove as simply one of less complexity than the movements of the pen which signs a treaty between nations.

W. Curtis Swabey.

# NOTES.

The *Revue Philosophique* for November, 1917 announces the loss of two more philosophical scholars—M. Louis Liard and M. Emil Boirac. M. Liard was distinguished for the emphasis which he placed upon the close connection between philosophy and the sciences. Among his works are the following: *Logiciens anglais contemporains; Descartes; Science positive et la Métaphysique.* M. Boirac was rector of the academy at Dijon, and is best known through his work, *Sur l'Idee du phénomène*, and by his articles in the *Revue Philosophique.*

The seventeenth annual meeting of the American Philosophical Association was held at Princeton on December 27 and 28. Professor A. W. Moore of the University of Chicago occupied the chair as president and delivered an address entitled, "The Present Opportunity of Philosophy". This will appear in the next number of the REVIEW.

The seventeenth annual meeting of The Western Philosophical Association will be held in Evanston, Ill., on March 29th and 30th, 1918, in acceptance, through action of the Executive Committee, of invitation from the Department of Philosophy of Northwestern University.

We give below a list of articles in current philosophical magazines:

MIND, N. S., XXVI, 104: *François Picavet*, The Mediæval Doctrines in the Works of Donne and Locke; *J. A. Stewart*, Socrates and Plato; *J. Laird*, Recollection, Association and Memory; *Arthur Mitchell*, What is Formal Logic About?

THE HIBBERT JOURNAL, XVI, I: *L. P. Jacks*, The War-Made Empires and the Martial Races of the Western World; *Countess of Warwick*, Peace—And What Then?; *W. J. Perry*, The Peaceable Habits of Primitive Communities; *G. F. Bridge*, War as Medicine; *Principal Selbie*, The Reconstruction of Theology; *Father F. Cuthbert, O.S.F.C.*, The Incarnation and Modern Thought; *Nicol Macnicol*, The Indian Poetry of Devotion; *C. F. Thwing*, Public Opinion in the United States in the Last Three Years; *Bishop Hamilton Baynes*, Doctors, Lawyers, and Parsons; *Percy Gardner*, Are the Anglican Modernists Honest?; *Sir Oliver Lodge*, The Scientific World and Dr. Mercier; *J. H. Skrine*, Telepathy as Interpreting Christ.

THE INTERNATIONAL JOURNAL OF ETHICS, XXVIII, 1 (Special Number. War Problems): *Horace Milborne*, The Hammer of Thor; *Harold C. Brown*, Social Psychology and the Problem of a Higher Nationality; *Margaret Jourdain*, Some Recent Literature on a League to Enforce Peace; *Victor S. Yarros*, German and Anglo-American Views of the State; *Elsie Clews Parsons*, Feminism and the Family; *Émile Boutroux*, Liberty of Conscience; *Mary Whiton Calkins*, Militant Pacifism; *H. B. Alexander*, The Fear of Machines; *Donald W. Fisher*, War and the Christian Religion.

THE MONIST, XXVII, 4: *Edouard Le Roy*, What is a Dogma? (with an editorial introduction); *Karl Immanuel Gerhardt*, Leibniz in London (with critical notes by J. M. Child and translations of Leibniz's manuscripts alluded to by Dr. Gerhardt); *Ernst Lecher Bacon*, Our Musical Idiom (with an introduction by Glenn Dillard Gunn).

THE HARVARD THEOLOGICAL REVIEW, X, 4: *Kemper Fullerton*, Zionism; *Kirsopp Lake*, American, English, and Dutch Theological Education; *F. J. Foakes-Jackson*, Professor C. C. Torrey on the Acts; *Henry Wilder Foote*, The Anonymous Hymns of Samuel Longfellow.

THE AMERICAN JOURNAL OF THEOLOGY, XXI, 4: *John Wright Buckham*, Luther's Place in Modern Theology; *W. H. T. Dau*, Luther's Relation to Lutheranism and the American Lutheran Church; *W. J. McGlothlin*, Luther's Doctrine of Good Works; *E. Albert Cook*, Ritschl's Use of Value-Judgments; *Francis A. Christie*, Unitarianism; *George A. Barton*, New Babylonian Material Concerning Creation and Paradise.

THE JOURNAL OF PHILOSOPHY, PSYCHOLOGY, AND SCIENTIFIC METHODS, XIV, 21: *Alfred H. Lloyd*, Psychophysical Parallelism: A Psychological Episode in History; *D. Warren Fisher*, Professor Urban's Value-Theory.

XIV, 22: *Hartley Burr Alexander*, Rousseau and Political Humanitarianism.

XIV, 23: *H. J. Davenport*, Scope, Method, and Psychology in Economics; *Denton L. Geyer*, The Relation of Truth to Tests; *Beardsley Ruml*, Coefficients of Diagnostic Value.

XIV, 24: *F. C. S. Schiller*, Aristotle and the Practical Syllogism; *Wesley Raymond Wells*, Two Common Fallacies in the Logic of Religion; *Durant Drake*, Dr. Dewey's Duality and Dualism.

PSYCHOLOGICAL REVIEW, XXIV, 6: *S. Bent Russell*, Advance Adaptation in Behavior; *P. F. Swindle*, Relevant and Irrevelant Speech Instincts and Habits; *George F. Arps*, A Preliminary Report on 'Work with Knowledge versus Work without Knowledge of Results'; *Margaret Gray Blanton*, The Behavior of the Human Infant during the First Thirty Days of Life.

THE AMERICAN JOURNAL OF PSYCHOLOGY, XXVIII, 4: *Edwin G. Boring*, A Chart of the Psychometric Function; *Harold A. Richmond*, An Improved Method of Using the Telegraphic Reaction Key; *Joseph Peterson*, Some Striking Illusions of Movement of a Single Light on Mountains; *P. F. Swindle*, The Biological Significance of the Eye Appendages of Organisms; *Leonard Thompson Troland*, Preliminary Note: The Influence of Changes of Illumination upon After-Images; *Wesley Raymond Wells*, Value vs. Truth as the Criterion in the Teaching of College Philosophy; *P. F. Swindle*, The Term Reaction Time (Redefined); *Anna Sophie Rogers*, An Analytic Study of Visual Perceptions; *James H. Leuba*, Extatic Intoxication in Religion; MINOR STUDIES FROM THE PSYCHOLOGICAL LABORATORY OF CORNELL UNIVERSITY. Communicated by E. B. Titchener and E. G. Boring. XXXVII, *Myrl Cowdrick*, The Weber-Fechner Law and Sanford's Weight Experiment;

XXXVIII, *L. B. Hoisington*, An Example of the Fractionation of Data from the Method of Constant Stimuli for the Two-Point Limen; XXXIX, *Ruth L. Crane*, The Effect of Absolute Brightness upon Color Contrast.

JOURNAL OF EXPERIMENTAL PSYCHOLOGY, II, 4: *Paul E. Klopsteg*, A New Chronoscope and Fall Apparatus; *Arthur B. Fitt*, The Estimation of Distances by Sight and Passive Touch: Some Investigations into the Evolution of the Sense of Touch; *C. N. Waterman*, Hand-Tongue Space Perception; *C. E. Ferree* and *Gertrude Rand*, Some Areas of Color Blindness of an Unusual Type in the Peripheral Retina; *Samuel C. Kohs*, The Progressive Error of the Smedley Dynamometer.

II, 5: *H. B. Reed*, A Repetition of Ebert and Meumann's Practice Experiment on Memory; *J. E. DeCamp*, The Influence of Color on Apparent Weight; *Harold E. Burtt*, Tactual Illusions of Movement; *Knight Dunlap*, Association-Reaction as a Test of Learning.

REVUE PHILOSOPHIQUE, XLII, 10: *P. Dupont*, La logique phénoménale; *E. Rignano*, Le rôle des tendances affectives dans l'attention et dans la conscience; *E. Bréhier*, L'acte symbolique.

XLII, 11: *W. Riley*, La philosophie française en Amérique; *J. Segond*, La spontanéité organisatrice et la perception pure.

ARCHIVES DE PSYCHOLOGIE, XVI, 63: *Ch. Jéquier*, L'emploi du calcul des probabilités en psychologie.

RIVISTA DI FILOSOFIA NEO-SCOLASTICA, IX, 4: *P. Giovanni Semeria*, Due grandi pensatori russi: Dostojevsky e Soloviev; *François Mentré*, Pierre Duhem; *Agostino Gemelli*, Analisi psicologica della paura.

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# THE PHILOSOPHICAL REVIEW.

## THE OPPORTUNITY OF PHILOSOPHY.[1]

THOSE who have followed recent philosophic discussion, including the symposium[2] on the brilliant address of my predecessor in office, must have been impressed with the widespread apprehension that philosophy is in danger of losing its job. This apprehension appears in two forms. One is the fear that philosophy is losing its human, personal, inspirational character and is on the point of capitulating to science. The other is the belief that philosophy is losing its scientific character and is surrendering to inspiration and edification—to religion and art.

In the midst of these alarums, it may be reassuring to recall how often in its history the fate of philosophy has 'hung in the balance.' So frequently has this occurred that we may well take courage from the suggestion that philosophy has become accustomed to that position and indeed does not seem to be quite comfortable in any other. Certain it is that the times in which philosophy has been supposed to be about to quit the world have been the times in which philosophy has renewed its youth and started a fresh career. Such apprehensions are the inevitable accompaniment of any period of pronounced reconstruction such as that through which philosophy is now passing and should be hailed as sure signs of life. My own conviction is that philosophy has never shown greater vitality nor had a greater opportunity

[1] Read as the President's address at the annual meeting of the American Philosophical Association held at Princeton University, December 27–28, 1917.

[2] *Cf.* THE PHILOSOPHICAL REVIEW for May, 1917.

than now. A statement of the nature of this opportunity requires some sketching of historical background.

It is now more than twenty-three centuries since the redemption of humanity from the bondage of tribal custom and myth was proclaimed in the name of philosophy. Yet at this moment we are in the midst of a war with the idols of the tribe, tribal politics, tribal religion, tribal art and, yes,—tribalized science and philosophy—a war in comparison with which all others have been mere skirmishes. And we exclaim: "How long, oh, Lord, how long!"

To be sure, many cherish the hope that this is the war of final liberation, that the universal extent of it means that the source and nature of our woe is being revealed to all the world at once. They find comfort in the reflection that it was necessary that all suffer together the pangs of the survival of these tribal vestiges in the body of our common life before we could reach a proper diagnosis and agree on effective treatment. But others will say, the cry of 'How long, oh, how long!' betrays the voice of time and of finitude, the voice of an infant crying in the night. Such terrestrial desires and hopes, we are told, entirely mistake the nature of the salvation originally proclaimed by philosophy. It was not a salvation of the world but from it. The world of becoming was by nature irredeemable. The life of reason was another life, a refuge from the brutalities of existence.

This conception of the life of reason is one to which many world-sick souls, to the end, will doubtless turn. But whether it cures more ills than it causes has ever been the question. It requires us to be in the world but not of it. How difficult, how impossible, this is, appears in the experience of all monastics. Indeed, it is urged by some that this very impossibility testifies that the conception has never been taken seriously by any but the monastics, least of all by the Greeks. They will remind us of Plato's explicit statement that his portrayal of the city-state 'is no mere dream.' But others will recall that it was possible only on condition that in that state philosophers should be kings,—a condition which finally proved too great a strain even for Plato's imagination. For he concludes that only the little bald,

tinkering imitators of philosophers could hope to be kings in any terrestrial city; and that if anyone claiming to be a philosopher should be chosen king, his selection would be conclusive evidence against his claim. As we know, the portrayal closes with the statement that "whether there really is or ever will be such a city is of no importance to the philosopher, for he will live according to the laws of the city." But even so, the laws of the city were such that in order that some might participate in the life of reason it was necessary for a multitude to remain in the bonds of myth and custom. The hosannas of the redeemed fell mockingly on the ears of a larger host of the unredeemed.

Here it will be said that we are inexcusably confusing the essence of Plato's plan of salvation with the accidents of the social and political system of his day. It is only necessary, we hear, to introduce the conception of democracy to bring Plato down to date. This sounds plausible. But when we pass to details, we are soon confronted with the question whether a conception of the life of reason which frankly accepted the irredeemable bondage of the mass of mankind can be democratized without changing, not only its extension, but also its intention.

It is indeed not strange that on the first emergence of reason from that vast matrix of tribal myth and custom, it should have seemed so different in nature that another myth was invented to account for its origin. Nor when we survey the extent of the tribal life by which the precious infant reason was surrounded, do we marvel that the redemption of that world seemed too huge a task. But a sympathetic understanding should not close our eyes to the consequences of this situation.

In tracing these consequences, we should have in mind the main features of this original plan of salvation. As liberation from custom and habit, from what is called in the Gorgias, 'routine' or 'mere experience,' we might expect that the life of reason would have been found lighting up with anticipation and direction the world of becoming. For it was not from change as such, but from blind, brute, uncontrolled change, that escape was sought. But since on its social side the actual operations of the world of becoming were carried on by those who moved

under custom and 'routine,' becoming was identified with custom; hence visions of the eternal as the content of the life of reason. But we know how these visions soon became systems of glorified custom and despite the name 'vision' were no less blind. A 'vision' that does not point beyond itself is as blind as any other experience.

It is also important to remember that the organ of these visions of the life of reason was the eye of pure, detached, passionless intelligence. When we complain, on the one hand in the name of impersonal fact, on the other in the name of impersonal reason, that philosophy has become infected with mundane and supra-mundane desires and hopes, it would be interesting and possibly enlightening to recall that this same passionless, impersonal intelligence originated as the means of escape from the world of fact, and has been from the beginning, however paradoxically, the chief speculative support of the hope of personal immortality.

If from the vantage point of the ordered life of Athens and Rome, the redemption of the vast wastes of myth and custom appeared impossible, we should scarcely expect any increase of optimism when the tribal tides from the north swept over the Eternal City and The Islands of the Blest. We do not wonder that when Stoic philosophy saw its celestial forms filled by the church with all sorts of tribal myth and finitude, it passionately reaffirmed the passionless character of the life of reason. But the medieval church was too deeply intrigued with the world, the flesh and the devil, to be a mere kindergarten for Graeco-Roman philosophy. If officially its kingdom was not of this world, it nevertheless had this world very much on its hands. In all history there is no more sublimely pathetic spectacle than the heroic attempt of the medieval church to transform a world of tribal custom into a life of reason with the concepts and methods of a philosophy conceived and fashioned as an asylum from that world. It is easy to patronize the casuistry of the church. But we should first assure ourselves that our complacency is due to an essential difference in method, and not to the fact that we have possibly acquired more skill in its use, though that may well be

doubted, or to the fact that the life of a celestial philosophy is now very simple as compared with its responsibilities in the days of the church. The medieval church, like our frontier household, was the center of all mundane activities. But one by one these activities have been transferred to scientific 'butchers and bakers and candlestick makers,' so that a transcendental philosophy can now sit comfortably by the fireside disturbed by no embarrassing household problems.

This introduces a period of great importance, the period in which occurs the differentiation of philosophy and science or, if we are jealous of the term 'science,' of philosophy and the other sciences, which, when referred to in the remainder of this paper in distinction from philosophy will, for sake of brevity, be called 'science.' So far as any such differentiation appears before the modern period, it is to be found in the fact that while philosophy was occupied with the analytic and systematic relations between its universals and categories, science was engaged in finding instances of the universals furnished by philosophy,—not, however, for the purpose of testing these universals but of illustrating them. To assume that they needed testing would have been sacrilege. Philosophy and science had the same conception of the nature and function of reason, which was to behold universals either face to face as in philosophy, or through the veil of particularity as in science.

But this search for new instances was full of peril for the unity of the household of reason, a peril which steadily increased as the scope of the search widened with the new process of the suns, with the appearance of new continents, and with new political, industrial and commercial problems. How the universals of the church, already loaded with a strange mixture of celestial and terrestrial materials of the early centuries, were soon swamped by this flood of new things and events is a familiar story.

Familiar also is the fact that modern history has spoiled the dramatic contrasts between the scholastic and the modern periods which earlier historians were so fond of portraying. Nowhere is the continuity on which modern history insists more palpable than in the development of science and philosophy. If the

scholastic system of categories had collapsed, its spirit went marching on in the efforts of the renaissance to find, ready-made, another to take its place. And if the modern period turned its back on all systems of the past, we know the adolescent enthusiasm with which a new and saving system was believed to be at hand and the modest but firm conviction of each philosopher that he could furnish it.

However, from its experiences in the periods of scholasticism and the renaissance, philosophy had by this time grown wary of the happenings and becomings of the temporal, spatial world. Hence its readiness to get rid of that world and wish science joy of it. Contrary to much received opinion, the essential criticism of scholasticism by the modern period is not that it was too other-worldly, but that it was too this-worldly. It had failed of universality because it was too terrestrial. In order to be re-universalized. philosophy had to be re-celestialized and thus leave the world of existences to science.

To such a division science was even more eager than philosophy to consent. For if philosophy had been embarrassed by the existences of science, science had been no less troubled by its failures to discern the features of the universals of philosophy in the new instances which it constantly encountered. Also it was growing more and more interested in the existences themselves and in their temporal, spatial, causal connections with one another. Science was therefore more than willing to accept the despised and barren field of existence for its patrimony if it could work it unmolested by the religious and political tribal teleology in whose bonds Galileo even then languished. For this freedom it was willing to bear the opprobrious brand of 'materialism,' and 'mechanism.' Indeed, the time soon came when it hung these shibboleths ostentatiously over its door to frighten away all teleological bogies.

This period of differentiation is full of interesting and instructive ironies. Tragic as are some of the consequences, it is difficult to suppress a smile, when science, on taking possession of its rocky wilderness of existence, solemnly announces as its instrument of cultivation the pure, passionless, impersonal intelligence!

There is also the beautiful historic irony of pure intelligence, originally invoked as the way of escape from this wilderness, now made an indispensable qualification for entrance to it and for residence in it. No less *piquant* is the spectacle of philosophy announcing with renewed emphasis the world of values as its domain, and proclaiming the same pure impersonal reason as its method.

Here I cannot refrain from turning aside for a moment to observe that in the current discussion, referred to at the beginning, between those who fear the influence of science and those who warn us against the dangers of edification, each side describes knowledge as merely a *seeing* process, and each proclaims the organ of vision to be pure, detached intelligence. At first it seems as if this common conception of knowledge were promising for our efforts at coöperation in philosophy. But reflection reveals difficulties. For even if we agree that these visions of truth are to be submitted to discussion and tests, what tests can be applied to 'detached' visions? The appeal to 'consistency' is vain. How can a vision as such be inconsistent, either with itself or another vision? No amount of color blindness could ever be detected by comparing visions with one another. *Non-disputandum* is as true of detached vision as of detached tastes. But it is true of neither visions nor tastes because neither are detached. And this difficulty is not manufactured by taking an unfair advantage of a metaphor. It is not a vicious pun, but sober statement to say that the uncritical conception of knowledge in terms of vision is largely responsible for visionary philosophy. By 'uncritical' I mean the conception of knowledge in terms of immediate, detached, finished vision. If knowledge were formulated in terms of attached vision, that is, of the whole *process* of vision including its stimulation, its limitation, its checking and testing by other functions, we should get rid of many of the misleading features of the analogy. But our vocabulary concerning knowledge is so saturated with the implications of this analogy of immediate vision that it is impossible to talk or even think and avoid them. But we must return to our story.

The handicap under which science labored at the beginning of

its independent career was due to its acceptance of the characterization of its subject matter as merely existential and its methods as visionized intelligence—a characterization that after Darwin and after the extension of its field into problems of individual and social behavior became grotesque. The artificial and shifting character of the distinction between the scientific world of existence and the world of values appears in the reversal of the form of this antithesis which occurred after *The Origin of Species*. Before Darwin the judgments of science were regarded as too analytic and mathematical to deal with values—especially with the value of an act. But when science began to deal in earnest with origins and with conscious behavior and to become truly experimental in method this form of opposition was destroyed. Philosophy saw the danger and met it by the simple strategem of occupying the abandoned position of science. It re-converted its values into eternal and immutable entities, and declared the methods of science to be now too hypothetical and unstable to deal with things eternal, leaving open to science the retort that the methods of philosophy were now too rigid and mechanical to deal with things temporal—even a moral act. And in fact the sequel was that this conversion of values into eternal entities made it necessary for philosophy, as Hegel and his followers saw, to reduce morality to 'appearance.'

But in the earlier stages of this period of differentiation which we are here tracing, science was still haunted by dreams of unconditioned universality and necessity—reminiscences of its previous existence with philosophy. It did not yet realize that universality of that sort was part of the price it had paid for the independence of its existential domain. Hence, when a philosopher, *e. g.*, Hegel, pointed his schoolmaster's finger at science and called it 'hypothetical' and 'contingent,' and other hard names, instead of replying with Zenobia of our school days, "the charge is true, and I glory in its truth," science felt the sting and made pitiful attempts to defend the absolute universality and necessity of its categories, and to set them up as rivals of the universals of philosophy. But the categories of science cut a sorry figure as candidates for the crown of universality in competition with

those of philosophy, fashioned by experts of long experience precisely for the purpose of being universal,—not to 'fetch and carry' in a world of existence.

But as science was losing its grip on the kind of universality which it had in the days when it dwelt with philosophy, it found itself coming into the possession of a new sort of universal,—the universal of law, quite different in type from the universals of essence and species. A law is not a universal form into which particulars shall fall when they chance to appear; a law is not satisfied to say that whatever happens will be a temporal, spatial or causal affair. It is concerned with specific relations between the times, the spaces, the causes, and the consequences of things and events. The defect of the Kantian "anticipations of experience" was that they did not anticipate, just as the failure of the 'analogies' was that they were not 'analogous.' They could yield a cosmic vision of all possible events as caused; but, as Hume saw in advance, they gave no clue to any particular cause. All of which means that the failure of *apriorism* was due to its helpless and hopeless empiricism. It could solemnly say: "All happenings must be temporal;" but concerning specific times it was as impotently 'empirical' as the newest infant. A type of universality therefore that was to deal with specific antecedents and consequents, was something new under the sun.

In spite of the fact that officially this new type of universal could have no commerce with values, interest in it rapidly increased. Philosophy, secure in the possession of social and religious values as its 'sphere of influence,' was at first indifferent, then complacent, then interested and finally anxious. Historians easily grow sentimental over the wistful eye with which Kant watched the career of this new universal. They are fond of portraying his fleeting hope that it might bolster up the tottering metaphysics upon which social and religious values then leaned. We know the outcome. Instead of reviving the old metaphysic, the new universal, at Kant's own hands, gave it its *coup de grâce.* Nevertheless the new type of universal was not allowed to usurp the place of the old metaphysic. The tradition of the existential character of science and the super-

existential character of values was still too powerful. So the new, ambitious, and doubtless often bumptious, universal was re-branded with 'mechanism' and 'materialism' and sent back to its existential habitation, while the function of the old metaphysic as the support of moral and religious values was assigned to faith.

Here my Hegelian auditor will ask: "Why not spare us this old trick of a cheap and easy victory over Kant." I am aware that in Hegel's *History of Philosophy* Kant was a voice proclaiming the advent of a greater, of whose identity Hegel had no doubt. But how much better off values were in the fold of the 'Concrete Universal' than in the hands of Kant's 'faith' may be judged when we recall how moral values, as we have seen, were reduced by Hegel to 'appearance.' Of this reduction of morality to 'appearance,' we might indeed say 'what's in a name,' if it really effected a working connection of values with scientific method. But the only connection it secures is their union in the fellowship of appearances of the Concrete Universal whose concreteness and universality are as much matters of faith as Kant's moral law.

Left thus without method, values became again celestial existences,—objects of detached impersonal vision, none the less existential because celestial; while on the social and practical side they were left to the play of tribal survivals, again none the less tribal whether labelled 'divine' or 'natural.' On the other hand, scientific method divorced from participation in the formation of values became equally 'metaphysical.' It set up altars to its laws, its atoms, and later to its biophores and ions. And when it reached the point where it included trans-finite numbers and logical entities in its subject-matter, these were hailed as signs that science, at last, had transcended its existential sphere and could now be welcomed back into the fold of philosophy. Once back, as little reference as possible was made to the existential past of these entities—to the fact that they had all developed directly or indirectly out of problems of continuity arising in the necessity, often the tragedy, of adapting old materials and instruments to new purposes, and of constructing new purposes in order to utilize the results of past experiences.

Many cherish the conviction that when philosophy received unto itself these scientific concepts not only was science redeemed from materialism, but philosophy thereby became scientific. They believe that these concepts are purging philosophy of the infections of edification and of mundane and supra-mundane interests. And yet, perhaps the most edifying portrayal in all literature of the visions of pure intelligence as a refuge from the ruthlessness and *schrecklichkeit* of existence—one of the earliest themes of edification—is from the pen of the most distinguished representative of this mathematical school, Mr. Bertrand Russell.[1] On the other hand, so long as the defenders of personality and values make values the content of visions of an impersonal intellect, it will be as difficult to escape the snares of existence—no matter if the name be carefully avoided—as for the mathematical school to avoid all taint of edification. As objects of detached intellectual vision, values and ions and the entities of analytic logic are in the same case. Which is the truest or the most edifying is a matter of taste.

Nevertheless, with all its present confusion and paradoxes, the importation of these conceptions of scientific method into philosophy is to be hailed as a bright omen. But it does not signify that philosophy is to be made more scientific and science more philosophic by substituting mathematical and logical conceptions for eternal values as the objects of philosophic vision. Its proper import will appear when, instead of attempting to substitute scientific concepts for values, or conversely, philosophy shall proclaim science as the method of its values.

To some this will sound solemnly platitudinous. They will ask: "Is not science already the method of values? What else is the meaning of the present world-mobilization of science?" Nevertheless, it does not mean that science is the method of values. On the contrary, it means that science, forced by the old tradition to expend its energies in developing a purely existential and physical world, is now called in as a mercenary to furnish so much hired force in the form of high explosives, barbed-wire, and poisoned gas, to serve values and purposes that, by the

[1] "A Free Man's Worship," *Philosophical Essays*.

same tradition, have been formed largely by more or less sublimated survivals of tribal custom—the traditions of dynasty, of shining armor, of suspicion of other tribes, of right as the might of the tribe, of my tribe, right or wrong. Science as the method of values does not signify that science is to be called to the defense of values born of instinct, custom and myth. It means—and this is the gist of the whole matter—that scientific intelligence must be operative in the *formation* of the values and purposes of our social life. It must be the method not only of maintaining but of obtaining them. It need scarcely be said that this does not call for the abolition of instinct and custom—a vain call surely. James was ever fond of reminding us that the being having the most intelligence has also the most instinct, intelligence finding its work not in noting and classifying instincts and customs as final and self-enclosed values, but in using them as *material* for new values. Such an attitude toward instinct and custom is no less the essence of morality than of intelligence.

What the full frank employment of scientific intelligence in the *formation* of values would mean, may be brought home if we ask, what if the conceptions of science were constituted after the fashion of our values? We should then have American, British, French, German and Russian, mathematics, physics, biology, etc. Each science would have its diplomatic corps, its secret service, its army and navy. And when word should come that an hypothesis was in peril from a tribal rival, the army and navy would be mobilized and the proclamation go forth, "*Vorwaerts mit Gott* until all opposing hypotheses are *spurlos versenkt.*" Or, if our tribe were seized with a decimating pestilence, it were better that all should perish than resort to an antitoxin 'made in Germany.' For the positive side of the picture,—what if the same tolerant, coöperative, experimental attitude, the same international range of observation and consideration, the same exquisite refinement of technique, the same devoted patience in its employment were present in the formation of our values? What if the methods and technique of scientific intelligence had been mobilized earlier in the service of our legislation and diplomacy? Should we now be under the necessity

of such frenzied appeals to science to undo with shrapnel the mischief caused by neglect of intelligence?

Again, what irony that it should be in the despised and barren field of existence, excluded by common consent from all communication with real universality, that the universality of coöperative method has actually been achieved. While we stand gazing into heaven, universality appears among men. We go on celestial crusades while the Grail is within our terrestrial walls. To be sure, this universality and democracy of scientific method has not yet its proper power and authority. For we still look for another. It has come unto its own and its own has received it not. "How," we ask, "can reality come out of existential Nazareth?" The very fact that this experimental universality of science has so much *achieved* reality, prevents its acceptance. It is too real to be true; or too true to be real. In the same breath in which we pray that the kingdom of God may come on earth, we so define that kingdom in terms of 'absolute universality,' 'eternity,' 'subsistence,' etc., that its coming on earth is impossible. So long as we continue thus to conceive the world of values science will continue to expend its energies in building up a merely existential and physical world and to be regimented and mobilized as so much brute force drafted for the service of tribally-formed ends. The real materialist and mechanist is he who conceives the subject matter of science as existential and physical in contrast with supra-existential values.

But the redemption of science from materialism and of values from tribalism will not be achieved by searching out in science certain conceptions—mathematical or logical—that are supposedly less existential and more spiritual than the others, nor yet by setting up these conceptions as visions of a pure intelligence in which to find refuge from existence. As a matter of asylum merely, it makes little difference whether we find it in mathematical concepts, theosophy or the movies;—in Bentham's phrase, in pushpin or poetry. Science will be spiritualized not by turning either its subject matter or its method into spirits; but by utilizing both its subject matter and its method in the formation of our terrestrial values and purposes.

This means, of course, not only that values acquire method but that scientific method acquires values as part of its recognized subject matter. I say 'recognized' for in some disguise or other values have always been present in the 'objects' of science. Something more than staring about, like the bear that went over the mountain, to see what we can see, determines the selection, direction and importance of scientific activity. To have this brought to light, given its proper place and limits, instead of being left to work under ground, in ways dark and devious, would be here, as everywhere, a great gain.

"But," exclaims some one, "this will put science back under the yoke of religious and political interests." With the document of the famous 'ninety-three' before us, in the presence of our own vacated desks and laboratories, how naïve is this future tense! Science has no choice whether it shall be affected or not affected by social, political, and religious interests. The only choice is whether this influence shall be frankly the natural and intimate one of subject matter and method, in which case the influence will be from social forces which science itself has helped to form; or whether it shall be from social, political and religious forces in whose formation scientific method has had no recognized part. In comparatively ruminant periods, the conception of science as existential and physical, and of values as supra-existential and spiritual, may conceal their underlying connection and produce an appearance of independence. But when the crisis comes, the concealed affinity asserts itself with an explosion that wrecks all our *camouflage*.

On the other hand are we still pursued by fears of the effects of scientific method on personality? Perhaps it is too much to expect that we, with friends, brothers and children in the trenches, shall see the cruel joke in this. But the Devil will see it and hugely enjoy it, as he recalls how all of us are now reduced to so many foot pounds of energy, to so many food-producing, food-consuming, marching, shooting, bombing, thrusting units, counted and tagged. If we fear to submit our precious personalities to experimental treatment, which can not be 'mechanical' in the old sense, we shall soon have something which we may well

fear. We shall soon find ourselves units of a process that is 'mechanical' with a vengeance.

This mechanico-phobia simply means that we do not yet understand or we do not take seriously the statement to which we all nonchalantly subscribe, namely, that 'Science is experimental.' To say this is to say first that its mechanism, *i. e.*, its elements and units, are experimental. And this is to say that they are relevant and relative to problems which are always, in the end, problems of personality and value. Moreover, the very possibility of experimental method presupposes personality.[1] The appearance of the modern self-conscious person contemporaneous with the rise of modern experimental science is no mere coincidence. The tribal, custom-made self is afraid, in the presence of strange things and events, of things to which he can not react in the old ways, whereas the modern personality in possession of itself, not only is not shocked by such experiences but is constantly seeking them. They are its meat and drink. To be sure, it seeks at the same time new categories and universals. But this is to say that the whole process of scientific discovery and experimentation presupposes and depends on a self-possessed personality. How strange, then, this antithesis of experimental method and personality! It is a Freudian survival of the timid, half-formed tribal self.

But so long as this survival continues we shall never be able really to understand and take seriously the experimental method of science. Still clinging to ultimatism in our treatment of values and personality, we shall inevitably take the same attitude toward the elements and units of science. The correspondent of ultimatism in science is ultimatism in values. The conception of absolute elements is the tribal conception of values and personality carried over into science. Our theoretical difficulties with the experimental method have their source in the fear to apply it to values. Once take the experimental attitude toward values and personality, the appropriate theory of knowledge follows. On the other hand, if we profess an experimental theory of science while holding a tribal concep-

[1] *Cf.* G. H. Mead, Chapter IV, *Creative Intelligence.*

tion of values and personality, our profession is academic and vain and sooner or later will betray us.

This, then, is the issue: Are we ready to take toward our social, political and religious values the same experimental attitude, subjecting them in principle to the same tests of international scrutiny and criticism, which we demand in our scientific procedure? It is the issue of the democratization of values. And it is neither sentimentalism nor demagoguery to say that it is at bottom the issue of the world war. The world can never be made 'safe for democracy' so long as tribal survivals can avail themselves of a theory which places values above or below, at any rate beyond, scientific treatment on the ground that they are either 'unique' or 'universal,'—which some tell us are the same thing. What Lincoln said of the nation is now true of the world. That it cannot exist half slave and half free means at bottom that it can not go on with an alleged free science and a tribal morality. If either is not free, neither is free.

Here, then, lies the present problem and the present opportunity of philosophy. What the ultimate problem of philosophy is, I do not profess to know. But here is a great and worthy task—very specific, very present and very pressing,—namely, the abolition of the esoteric attitude, the attitude of the tribal medicine man, toward our social values and purposes, which of all things should have the most delicate and patient ministrations of intelligence. On all sides, philosophers complain of inability to keep up professional interest. One complains that "no philosopher in his official capacity has been called to the nation's councils." But in teaching and preaching the necessity for this change of attitude toward personality and values, and by the same token toward science, the philosopher as such will do his bit not only in the present world crisis but much more in preventing the recurrence of such crises, which indeed is the issue of the present crisis.

And I do not see that identification with a school—idealism, realism, pragmatism—need prevent coöperation in this undertaking. It implies, to be sure, an idealism that is more than a sanctuary, a realism whose reals are more than mathematical and

logical entities, and a pragmatism whose practice is not confined to 'bread and butter needs.' But it is not difficult to find idealists, realists, and pragmatists who are ready to fill these specifications so long as they are not called upon to square them with a general theory.

To all who fear that philosophy is in danger of being permanently interned, not to say interred, this offers philosophy at least another opportunity for active service. Those who believe that philosophy should be made more scientific should find the enterprise congenial, for its aim is precisely to make more scientific the philosophy of values. Those who feel specially called to guard the claims of personality should have no misgivings in joining an undertaking which proposes to liberate the factors and processes most directly concerned with personality from the survivals of tribal myth and custom, and place at their service the methods of experimental intelligence—a method which as we have seen presupposes personalities for its operation. Finally, what could be more edifying than the prospect of substituting reason for shrapnel as the method of dealing with the problems involved in the formation and in the conflicts of our human values and purposes?

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# THE RELATION OF THE PSYCHOLOGY OF RELIGION TO THE PHILOSOPHY OF RELIGION.

THE remarkable progress that has been made during the past two decades in the psychological interpretation of religion has no doubt been in considerable measure due to the fact that each investigator, in this country at least, has set out in a thoroughly empirical manner to discover the facts, without too much concern about nice questions of definition and methodology. The mistake of continually whetting one's knife and having no time left to do any cutting has been avoided. The psychology of religion can now claim to have won a definite place as a science, with a considerable body of knowledge already classified and with methods and technique for further investigation.[1] For this very reason, that the science of the psychology of religion is now approaching maturity, the time has arrived when she should follow the example of her older sister sciences, and more carefully define the province that she claims for herself, and the relations that she will hereafter maintain with philosophy, the common mother of all the sciences. In asserting the right to be treated and regarded as an adult, this science must assume responsibilities, and can no longer expect the indulgence accorded to the blunders and crudities of a child.

This paper will accordingly set forth what the writer believes to be the principal differences and points of contact between the philosophy and the psychology of religion. If these opinions should appear to be stated somewhat dogmatically, this will be understood, he hopes, to be due to his desire to provoke dissent and correction where he is in error. The delimitation of the provinces of these two disciplines cannot easily be determined, but it is necessary for some one to make a beginning.

I. In the first place, it will be necessary to recall some of the

[1] The present status of the science is evident from the wealth of material summarized in Professor Coe's recent manual, *The Psychology of Religion* (Chicago, University Press, 1917).

more general points of difference that are usually held to mark off philosophy from all of the sciences. Many of the exact differences are in dispute among the logicians, and it will be unnecessary to go into all of the subtleties of this question. (1) Sciences describe and explain phenomena as they come and go; they ask the question *How?* and never the question *Why?* Philosophy, on the other hand, seeks ultimate grounds; it does ask, *Why?* (2) Sciences deal with selected classes of facts, and they regard these facts from some special point of view. Philosophy endeavors to interpret facts in their universal relations. (3) The sciences have all originated in philosophy. When precise technique for the investigation of phenomena in any field became far enough developed so that hypotheses could be tested by experiment or observation, a science arose. The new science left remaining within the domain of philosophy those problems with which it was unable to deal experimentally. Philosophy continues to attack these problems as best it can, reasoning by analogies, and testing theories by their logical coherence and pragmatic value. (4) Each science begins with certain assumptions which are never tested except by the general success of the science as a whole. Philosophy is expected to analyze all such assumptions. It follows that philosophy must determine as well as it can the significance of the achievements of each science in an account of the world as a whole. (5) The whole field of norms and values may be said to remain within the domain of philosophy. For the so-called 'normative sciences' have never really broken away from philosophy; they still employ its methods, and they are really philosophical disciplines.[1] In saying this I do not forget that in an ultimate sense no science can be *merely* descriptive. Every science introduces a particular point of view, from which it reinterprets experience. And every science states its laws in terms of hypothetical universals: given certain con-

[1] Exceptions are only apparent. *E. g.*, comparative ethics may appear purely scientific when it compares the moral ideas of different ages and indicates lines of evolution, and psychological aesthetics may appear purely scientific in its correlation of experiences of beauty with organic processes; but the determination of what really *is* good or beautiful can never be arrived at by empirical methods, and remains within the domain of philosophy.

ditions, certain results will follow.[1] But the very *raison d'être* of any science is the practical utility of a certain point of view, or a certain plane of existence, from which an investigator can describe and interpret phenomena and formulate laws in such a manner that other investigators will be able to test his observations independently. One who succeeds in keeping his work upon the plane of existence of his particular science is a consistent scientist. To interpret, in a view of the world as a whole, the results of a science is a legitimate philosophical task; for the various planes of existence of the different sciences all have their place in a philosophical account of the world. But to interpret facts in a professedly scientific treatise from more than one plane of existence is to be neither scientific nor philosophical; it is to introduce hopeless confusion.

These general points of difference between philosophy and the sciences suggest the lines along which the boundaries between the psychology of religion and the philosophy of religion should be drawn.

1. The psychology of religion should describe religious phenomena in terms of the structures, functions, and modes of behavior of general psychology. Thus viewed, this science is merely concerned with the application of the laws of general psychology to a particular class of phenomena. The psychologist of religion should simply get together all available material from contemporary religious experience, from autobiographies and similar sources, from the literatures of the historical religions, and from the reports of anthropologists, and interpret them by means of the categories of ordinary psychology.

2. The psychology of religion should deal with religious phenomena merely as such. It should ascertain whether these phenomena can all be accounted for in terms of known psychological laws, or whether they indicate the presence of factors unknown to ordinary psychology; and, if it suspects the latter, it should devise modes of empirical investigation to settle the question. If in the science of physics the motion of certain physical bodies could not be accounted for by any known laws,

[1] *Cf.* E. A. Albee, "Descriptive and Normative Sciences," PHILOSOPHICAL REVIEW, Vol. XVI, pp. 41 ff.

some one might suggest that these phenomena must be due to the action of a God and of other spirits. This would then be a question for experiment. If it were found that only such an hypothesis could explain the facts, theism and spiritism might be regarded as experimentally proved. But if it were found that the phenomena could be entirely described for the purposes of physics in mechanical terms, the possibility of the existence of such beings in the universe would be unaffected, but these conceptions would be shown to have no standing whatever in the science of physics. In like manner, if the phenomena of conversion, prayer, and mysticism indicate the presence of forces and processes that can neither be described in terms of consciousness, nor subconsciousness, nor neural processes, nor even telepathy, the postulation of God and of other unseen spirits would be inevitable for the psychology of religion. Further investigation might strengthen these postulates, and they might become established doctrines of the science. Many, perhaps the majority, of writers on the psychology of religion, however, are of the opinion that all religious phenomena can for scientific purposes be described in terms of the laws of general psychology, and that the direct action of God or of spirits on the mind is no more requisite for a psychological account of religious phenomena than the postulation of divine or angelic action is requisite for the science of mechanics. If this opinion proves to be justified in the further development of the psychology of religion theism and spiritism will have no standing in this science. But for the philosophy of religion these will still be possibilities to be considered. The exclusion of an hypothesis from the psychology of religion can have no more effect upon its claims for consideration in a philosophical account of the world than does its exclusion from physics.

3. Any question regarding religion that can be attacked by psychological methods legitimately belongs to the psychology of religion. The condition simply is, that the science must possess the technique for attacking the problem, and for establishing results capable of independent verification by different investigators. But the psychologist must be clear in his own mind just what can, and what can not be established by such technique.

Matters of fact may be so established; ultimate interpretations of facts can not. For instance, the question whether all nations instinctively have a belief in a God or some personal type of a supernatural being is a question of fact that, in the writer's opinion at least, has been conclusively answered in the negative. That there is a widespread tendency among nations for a sentiment toward such a being to develop from native instincts, on the other hand, he believes can be successfully affirmed.[1] But the answer to neither of these questions of fact throws much, if any, light on the philosophical question of the existence of God.

4. The psychology of religion makes all of the assumptions of the natural sciences. It will not question the validity of the ordinary categories of time and space, cause and effect, matter and motion, and the others. Any particular psychologist when dealing with religion will make the further assumptions of the school in general psychology to which he adheres. He may also favor epiphenomenalism as the proper explanation of the relation between consciousness and the nervous system; or he may be an interactionist or a parallelist; or he may be an extreme behaviorist and refuse to treat of consciousness at all. He may make structural processes of sensation and affection the basis of his psychology, or he may interpret mental processes functionally, or in terms of a 'self,' or of a 'Freudian wish.' If he follows American precedents he will be more or less of an eclectic, and use whatever assumptions from whatever schools seem most useful. In any event he is likely to be an ardent believer in the value of the reflex arc concept, and to be rather favorably disposed to the concept of the subconsciousness. But the student of the philosophy of religion cannot take any of these psychological assumptions for granted, though his attitude to them will be colored to some extent by his general metaphysical inclinations towards idealism, positivism, pragmatism, realism, or what not.

5. A good practical way for a man to determine whether he is sticking to the plane of existence from which psychology as an empirical science seeks to describe religious phenomena, or whether he is getting on some other plane and introducing con-

[1] "Instinct and Sentiment in Religion," Philosophical Review, Vol. XXV, pp. 28–44.

siderations and a point of view that are scientifically irrelevant, is to ask himself whether persons who differ with him in their theological and philosophical valuations of life would be able to accept his statements of psychological facts. Let him consider (supposing that he is a non-ritualistic Protestant, for instance) whether he is describing and interpreting religious phenomena in a manner that would raise none but psychological points of disagreement in the mind of a psychologist who happened to be a high church Anglican, a Roman Catholic, a Unitarian, a Jew, an atheist, or an agnostic, or whether he is describing them from the standpoint of his own theology, or (what is perhaps more likely to occur) from the standpoint of a theology in which he was brought up and now intends to repudiate, but by which he is still unconsciously influenced. Of course this test is not infallible. Some religious confessions (Christian Scientists for example) incorporate in their tenets psychological absurdities. But this, the author supposes, is not true of any of the types of theological belief referred to above, in the forms in which they are accepted by scholars of repute. Likewise the psychologist should ask himself if idealists, neo-realists, and pragmatists alike would be willing to assent to his empirically established 'facts'; and in doing this he should be aware that ignorance of these metaphysical standpoints is by no means a guarantee that his statements are not colored by metaphysical assumptions irrelevant to his work as a scientist. Perhaps the surest way for a scientist to avoid metaphysical bias is to study metaphysics; it is easier to keep out of pitfalls when we know where they are and what they are. The psychologist is less likely to assert as 'facts' phenomena that would be questioned by psychologists of other schools. He will naturally be careful to have data at his command to substantiate claims that he may make that seem open to question on the plane of psychological controversy; and if he should transgress, his attention will speedily be called to the matter by his psychological colleagues in language that will be intelligible to him.

Although the provinces of the philosophy and the psychology of religion should be carefully distinguished, investigation in the

two need not be made by different sets of workers. Far from it. No science can afford to become separated wholly from philosophy; for this to happen would be for the science to lose organic relationship with the rest of knowledge and to become a meaningless abstraction. This is particularly true of psychology, which deals with types of experience that can only be reduced to series of existential objects by an artificial procedure. An absolute separation would be fatal to the psychology of religion, which is primarily concerned with a study of the development of purposes, ideals, and the organization and transformation of personalities.[1] The student of the psychology of religion, above all other scientific students, must be acquainted with philosophy.

Nor does it even appear necessary or desirable that any one should confine himself to one of the two—the psychology or the philosophy of religion—in single treatises, or even in addresses or journal articles. On the contrary, the present writer believes that often it is most advantageous that the two be treated in conjunction. But such conjunction should always be a discriminating coördination of the two methods and points of view, not a confusion between them.

II. Let us next consider some of the ways in which the psychology of religion and the philosophy of religion will respectively profit by a careful discrimination between the two disciplines, and some of the advantages which they will gain by intelligent coöperation based upon this discrimination.

1. To mention first the psychology of religion. It will be a great advantage to investigators to be able to advance psychological explanations without prejudice to the question of the truth or objective reality of objects of religious faith. For instance, to be able to give an account of the evolution of the idea of God in the history of religions and of the development of this conception in the experience of the adolescent quite apart from the metaphysical question of the objective existence of a God in the universe (a question with which psychology, like all other sciences, is unable to grapple) will emancipate psychologists from the *odium theologicum*, and will focus their attention

[1] *Cf.* J. E. Creighton, "The Standpoint of Psychology," Philosophical Review, Vol. XXIII., pp. 159–175.

narrowly upon the problems that properly lie within the scope of their science. In consequence, the psychology of religion will become more speedily recognized as a dignified empirical science. A fairly large group of 'facts' can then be established. Now, in saying this last, I am quite well aware that no 'facts' exist apart from hypotheses, and that our theories determine the 'facts' for which we look.[1] But it will be possible to define observed 'facts' in such a manner that other investigators can find them independently. As psychological investigators realize that their investigations can never either confirm or refute the claims of theological beliefs to be true, it will be easier for them to eliminate the personal equation from their work, and describe the facts of religious experience from a strictly scientific standpoint.

2. Various benefits will accrue to the philosophy of religion if the psychology of religion thus becomes (as it already for the most part is) a definitely articulated science of a purely descriptive type. In the first place, the data of another empirical science, ascertained without any preconceived assumptions, except those similar to other sciences, will be available for philosophical interpretation. The data of this particular science ought to be of exceptional value for philosophy, since it deals with unusually concrete aspects of experience. If philosophers can learn more definitely, as a result of psychological investigations, what religion is, and what it has been, and what it is likely to become, they can more readily work out norms of what it ought to be, and they can also more intelligently consider its claims to be an adjustment to, or an interpretation of, reality.

One fault in some psychological literature that seems to the present writer serious is the introduction of judgments of worth into what are apparently intended to be descriptive accounts of facts; in other words, philosophical standpoints are undiscriminatingly inserted into psychological material. This is not discriminating coöperation between the two disciplines, but disturbing confusion. The term 'social' in a descriptive definition should merely designate collective experience; it can not also denote what is good and desirable without the definition ceasing

[1] *Cf.* W. B. Pillsbury, "The Datum," in *Philosophical Essays in Honor of James Edwin Creighton*, pp. 162–175.

to be descriptive and becoming normative.[1] Norms of course have their value, and they can well be introduced into any descriptive account for philosophical or pedagogical interests, provided it is made clear that they are *obiter dicta*, and form no part of the statement of facts. To identify the religious consciousness with that of "the great interests and purposes of life in their most idealized and intensified forms,"[2] to differentiate religious faith from other types by making its ideals 'the highest,' 'the most valuable' and 'the most essential,' and to deny any real distinction between religion and morality, are to state norms for an ideal religion, such as philosophers like Plato or Comte might formulate. They are excellent norms, though I am not quite sure that I am ready to adopt them all as desiderata for the religion of the future. But they certainly do not constitute a literally accurate statement of what any historical religion has been to the majority of its adherents. An author's religious ideals may slip more subtly into assertions that read as if they are asserted to be universal properties of all religions, though it is difficult to imagine that the author really believes them to be such—"religion is interested in all values, in the whole meaning of life"; it is "an organizing principle among all the values that are recognized at any stage of culture."[3] Such ambiguities as those last cited lead one to wonder if in psychology one ever ought to employ such an abstract term as 'religion.' *Is* there, for psychology, such a thing as' religion'? Should the psychologist not speak pluralistically of 'religions' or 'a religion,' or 'this' or 'that' 'religion,' or of 'religiosity'? Should not 'Religion' always be reserved for the philosophical ideal of what religions ought to be, and be designated by an initial capital letter? These citations from writers whose general attitude is thoroughly scientific, and the latter two

[1] A. C. Watson ("The Logic of Religion," *American Journal of Theology*, Vol. XX, pp. 81–101; 244–265) in his otherwise suggestive and valuable definition of religion as a "social attitude towards the non-human environment" seems to me to do this. The word 'social' can be properly used in either a descriptive or a normative sense, and definitions may properly be of either character; but there must be no ambiguity.

[2] E. S. Ames, *The Psychology of Religious Experience*, pp. 280, 285, 297, and *passim*.

[3] G. A. Coe, *op. cit.*, pp. 75, 107.

of whom have made repeated contributions of major importance to the psychology of religion, show how imperative it is that the distinction between the psychology of religion and the philosophy of religion be established and carefully maintained.

3. One practical advantage that will come to both disciplines, if the philosophical and psychological view-points can be kept distinct, is that it will be possible for two investigators to find themselves in close agreement in one of these fields, though in opposed positions in the other. Writers of most diverse theological opinions may find themselves in complete agreement as to proper methods of investigation and description of the psychological phenomena of religion, and so be able to coöperate most effectively. Again, writers whose psychological opinions differ may have common theological and metaphysical standpoints, and common ideals as to what religion ought to be. The present writer has found this to be true in his own experience in a number of instances. By keeping the distinction between the two disciplines in mind, he has been able to learn much in one of them from writers from whom he has felt obliged very largely to differ in the other.[1]

III. The manner in which the philosophy and the psychology of religion should be distinguished from each other, and how they can coöperate will become clearer by the indication of some of the problems which each discipline should attempt separately, and of some of the problems in which each can be of assistance to the other.

1. The psychology of religion should study independently the mental processes (or modes of behavior) manifested in conver-

[1] For instance, he very largely agrees with Professor Ames and Professor Coe in their ideals of what religion ought to be, though he is in this respect on the whole more conservative than they in setting a higher premium on traditional forms and institutions. On strictly psychological matters, however, he has learned more from Professor Leuba, who, he thinks, sticks more closely to the facts in his descriptions of religious phenomena. On the other hand, he differs very sharply from Professor Leuba, both normatively, as to what Religion ought to become, and metaphysically, in his acceptance of a considerable measure of truth in traditional religious doctrines, such as those of a personal God and of personal immortality. In fact, he believes that Professors Ames and Coe in their enthusiasm to vindicate their ideals of religion in psychology sometimes misstate the facts; whereas Professor Leuba's more accurate statements of facts sometimes furnish solider ground for the very philosophical standpoints that the former two wish to maintain.

sion, ecstasy, and suggestive therapeutics. It should investigate the nature of prayer as a conversation between an 'ego' and an 'alter,'[1] and consider the ways in which prayer can empirically be shown to be efficacious (*e. g.*, relief of functional disorders, moral development of the person who prays and the strengthening of his influence morally upon others for whom he prays, the influence of prayers made by a collective group for the betterment of the community), and the ways in which prayer can be empirically shown to be ineffective (interference with the weather and other physical phenomena, removal of organic diseases, etc.). It should consider the significance of the psychology of adolescence and of the subconscious for the interpretation of religious phenomena. It should attack anthropological questions regarding the function of religion in early society, the existence of religious instincts and sentiments, the different phases through which religions pass, the relative prominence of feeling, belief, and volition at different stages of their development, and so on. It should consider whether the direct action of some agency external to the individual's organism must be assumed to explain the psychological phenomena of religious experience. In this sense certain types of theism and spiritism claim to have a standing in psychology, and whether or not this claim is justified should be settled. All of these problems are purely psychological; they bear no immediate relation to the philosophy of religion.

2. Again, there are problems in the philosophy of religion that bear no relationship to the psychology of religion. Among these are the ontological, cosmological, and epistemological problems. It is only by a consideration of these problems that the question of the objective reality of Religion can be decided. The ontological argument for the existence of God has been rehabilitated by some contemporary idealists. Others, among whom Royce is notable, have made much of arguments for a God or Absolute drawn from a consideration of the problem of knowledge. Then, of course, there are pragmatic arguments that have had a great deal of popularity since James promulgated the doctrine of the 'right to believe.' And there are evolutionary and adaptive arguments, such as those of Pro-

[1] Anna L. Strong, *The Psychology of Prayer*.

fessor George Burnam Foster.[1] Most important of all, as Kant has shown for all time, as it appears to the present writer at least, are the teleological arguments. None of these arguments appears to depend, in any intimate way, upon the psychology of religion. Other sciences, such as biology, are of more value in furnishing support for the teleological and some of the other arguments; though the ultimate considerations involved lie beyond the assumptions with which all sciences begin.

Perhaps this will be clearer if the writer gives in illustration a brief summary of his own philosophical convictions upon Religion. Of course the reader need not accept any of the writer's opinions on these matters, and yet he may be able to agree that problems of this sort should be pursued by the philosophy of religion independently. The writer's own belief is, then, that the general weight of evidence, derivable from a consideration of the data supplied by the various sciences and interpreted so as to give a coherent account of the world as a whole, inclines very decidedly in favor of a teleological view of the world. Since the weight of evidence, even when all the difficulties are taken into consideration, lies strongly on this side, and since no absolute proofs are obtainable either way, one is logically as well as morally justified in exercising the 'right to believe,' and in concluding that this universe is in some sense teleological. If the universe be teleological, the acceptance of some kind of God or Absolute follows; it would be more difficult to conceive of the dominant factor in a teleological universe in any way other than as a Personality. The whole of things must be an Individual. Again, if this is a teleological universe it must be a moral universe; for if the universe as a whole conserves or aims at values of any kind at all, these surely must include moral values. This last granted, the Kantian arguments for God, freedom and immortality need only to be restated in evolutionary terms to be found relevant.[2]

[1] *The Finality of the Christian Religion. The Function of Religion in Man's Struggle for Existence.*

[2] The precise view of God, of freedom, and of immortality depends upon how one decides the issues between monism and pluralism, pantheism and theism, determinism and indeterminism. After having favored for a number of years the latter set of alternatives, the writer finds himself inclining more to the former set; either would furnish a satisfactory basis for ordinary religious beliefs and practices.

Ontological and epistemological considerations will to some extent reinforce these conclusions. Having thus arrived at the belief in the existence of a God in the universe, we should expect that this God would in some way have revealed Himself to men—or that the divine Idea immanent in evolutionary processes would in some sense have come to self-consciousness in human experience. Here, for the first time, the psychology of religion can begin to furnish support, in the writer's opinion, to the philosophy of religion. The evolution of the idea of God from animism and polytheism to monistic religion (whether monotheistic or pantheistic) may be regarded as empirical evidence in confirmation of our expectation. In like manner, the coming to consciousness of the divine presence in adolescent religious experiences such as conversion, as well as in prayer, and—more strikingly if possibly less normally—in the experiences of the great mystics, may be considered as further confirmatory evidence. These psychological data, viewed from the standpoint of the psychology of religion as an empirical science, ought to be explained wholly in terms of mental processes that no more involve the hypothesis of God than do the processes in which the astronomer states the movements of the heavenly bodies. However, like the astronomical data, when reinterpreted from a philosophical standpoint, they furnish evidence for a rational, teleological, and moral universe in which a God is immanent.

3. The writer's own *Credo*, just stated, shows how he finds it possible to enlist the psychology of religion in the service of the philosophy of religion. There are numerous problems on which the two can be of mutual assistance. Writers treating of these problems should draw upon both, but should do so discriminatingly, and make it clear when they are thinking in terms of an empirical science, and when they are reasoning philosophically. The psychology of religion has now shown that the idea of God has been an evolution in human society, and that this evolution has been correlative with other phases of social development. This suggests two opposing arguments: on the one hand, since the idea of God has been such an evolution, and no past or present conception of God can be expected to endure indefinitely in its

present form, the notion must be a subjective illusion, 'man has created God in his own image'; and on the contrary, that since that conception has continued to evolve along with other phases of human thought, it must in some sense represent increasing conformity to Reality—there was truth in the idea from the start and the conception is increasing in truth and adequacy as it evolves. Both of these arguments are metaphysical. The psychology of religion has furnished data for them both, to be sure; but the issue could never be settled on psychological grounds. The more thoroughly empirical and dispassionate the psychologist is in collecting data of this sort, the more dependable his data will be for metaphysical arguments; but if he twists the facts to fit a preconceived theory on the matter his conclusions will be neither good science nor good philosophy.

Another illustration of psychological data valuable for the philosophy of religion is the discovery that religious dogmas and doctrines develop as interpretations of eras of religious experience, that they are not causes but products of religious activity. This psychological fact discredits the shallow rationalism that has attempted to disprove the truth of a religion by disproving some of its doctrines. No religion is dependent for its continued existence on the acceptance of any of its doctrines in any of their historic forms. The religion existed, and in many cases had its most vigorous life before any of these doctrines appeared; it can survive them. One type of philosophers can welcome such data as support for anti-intellectualistic contentions of various sorts—experience in its entirety comes closer into contact with reality through feeling or mystical intuition than through discursive thinking. Others can claim that such doctrines after all did interpret a real experience better than it could have been understood without any intellectual explanation at all, and that they prepared the way for more adequate explanations that supplanted them. This particular psychological 'fact' therefore may be urged as evidence for a metaphysic that would be either pragmatic or neo-Hegelian in its insistence that all knowledge is a process of development in which earlier categories are superseded by later ones that either 'work' better, or are more logically

inclusive. Perhaps, with the various philosophical theories of truth and reality and knowledge in mind, psychologists could describe the empirical facts more carefully, and consider whether religious experience, when most vigorous, has been inclined to seek contact with the real in attitudes suggestive of mystical intuition, practical experiment, or discursive reflection.[1]

The philosophy of religion will be of value to the psychology of religion in indicating the status of the problems o. the truth and worth of religion. Such a knowledge of the philosophical situation will make clearer to the psychologist just what sort of evidence it is possible for him to collect, and its probable significance. The psychologist will rightly value his own empirical collection and interpretation of verifiable facts. He will rightfully feel that empirical knowledge has a kind of certainty to which metaphysical speculation can never attain. On the contrary, his self-regarding sentiment will be kept within proper bounds by the reflection that after all the ultimate questions in which he and all human beings are most vitally concerned can never be settled by any psychological investigation, whereas metaphysics can at least indicate implications and probabilities.

Two works of classical significance in the philosophy of religion can be mentioned as illustrative of the aid that each of these disciplines can render to the other. Höffding, in his *Philosophy of Religion*, by making use of scientific analogies and the psychology of the time in which he was writing, formulated the metaphysical doctrine of the 'conservation of values.' This doctrine has been very suggestive in psychological work since that time. Royce, making use of the social conceptions of consciousness which he himself as a psychologist had helped to

[1] Irving King's *Development of Religion*, though it occasionally confuses the normative and descriptive senses of 'social,' in the main is to be commended for keeping the psychological and philosophical attitudes distinct. It is primarily a psychological treatise. In the last chapter, however, some philosophical conclusions are indicated, which have been suggested by the psychological investigations reported in earlier chapters. These conclusions are advanced from the standpoint of a pragmatism somewhat colored by the neo-Kantian movement, and they might not be acceptable to philosophers of other schools. Their place at the end of the volume makes it clear to the reader that his acceptance or rejection of these philosophical conclusions should not determine his attitude to the psychological chapters that precede.

develop, advanced in his *Problem of Christianity* a new metaphysical theory of religion of wide significance. And not only that; his conception of the 'beloved community' has opened a new line of possible development in the psychological interpretation of religions. His book may also suggest to the psychologist closer psychological analysis of the doctrines of 'sin' and 'atonement' than Royce has made, as well as of the 'incarnation' with which he has not dealt at all. Should the psychology of religion succeed in disclosing to us the nature of the primitive Christian experience that gave rise to these dogmas, the philosophy of religion would be able to go ahead more intelligently to determine the essence of Christianity, what its significance in Reality is, and hence to determine the extent and character of its validity. It is to be hoped that dogmas of Judaism and Buddhism—to mention two other religions especially rich in psychological and philosophical material—may be appreciatively interpreted in the same way.

In the writer's belief, he has in the course of this article been setting forth little that is contrary to the usual practise of workers in the philosophy and in the psychology of religion, and least of all to that of the writers whom he has cited in criticism. He believes that his contemporaries have been tacitly recognizing these distinctions and relationships. No one, however, so far as he is able to recall, has published a formulated statement of the relationship of the two disciplines to each other. Has not the time now come when such formulation is both desirable and necessary? Will not more solid advance thus be assured in both disciplines, not only when work is attempted in either to the exclusion of the other, but also when one of them is employed to throw light upon the problems of the other?

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## AN APPROACH TO THE MIND-BODY PROBLEM.[1]

THERE is no problem more crucial for science and philosophy than the mind-body problem. Here the physical world and mind somehow come together. Separate them as much as we will in our abstract thoughts, they refuse to remain separated in reality.

The way in which the mind-body problem has been envisaged, both as regards the terms and their relation, has corresponded to ideas of a very general nature. It has reflected assumptions which for various reasons—to be understood only historically—have dominated the thought of the day. Thus the peculiar feature of the mind-body problem is its lack of *specificity*. It is impossible to conceive of a single experiment whose results could decide the question. In this sense, it is a philosophical problem. But this statement needs explanation. It is a philosophical problem because it can not come within the sole purview of any one science. What is required is a coördinating hypothesis which will bring harmony into a complex field in which both the physical and the mental sciences are present. A point of view must be achieved from which the data and theories of the basic sciences can be ordered in relation to each other. It is obvious that such a point of view is impossible without the analysis of fundamental concepts. I have said analysis, but even more is involved. There must be a constructive development of these concepts, or categories, as well. Philosophy must achieve something positive in epistemology and *Kategorienlehre* if it hopes to aid the synthesis which confronts science.

Such is, if I mistake not, the logical position of the mind-body problem and the reason why philosophers must hold it to be peculiarly their own. But if philosophy is to be a coördinating science resting upon, and coöperative with, the special sciences, its envisagement of the problem must reflect the march of events

[1] Read before the meeting of the American Philosophical Association at Princeton University, December 28, 1917.

within these sciences. It can not isolate itself and trust solely to the powers of dialectic speculation. Its hypotheses must result from the pressure of the general scientific movement and the fertile suggestion which such pressure gives to the creative imagination. It is in accordance with this conception of the function and motivation of philosophy that I have for some years concentrated upon the mind-body problem; and the general solution I offer claims to satisfy the logical requirements of a good hypothesis, agreement with the known facts and harmony with critically evaluated principles.

Until recently, dualistic theories have been in the ascendent. Whatever form this dualism took, whether parallelistic or interactionistic, it rested upon certain traditional assumptions and inhibitions which have only lately been undermined by the growth of science and the corresponding increase of what may be called a realistic naturalism. While dominating different fields in the main, these assumptions with their positive and negative aspects reënforced one another in a curious fashion at the locus of the mind-body problem. The first set of assumptions turned around the acceptance of a dead-level, unevolutionary view of the physical world. It was held, for example, that the organism is nothing but the parts, or elements, into which it can be analyzed or disintegrated. Science committed something analogous to the fallacy of composition. Justice was not done to totality and organization. This set of assumptions can be connected with the prestige of mechanics and physics in the past. I had better say with the prestige of the *old physics*, for it seems to me that physics is seeing a new light as it begins to analyze the atom. This disintegrative naturalism of *nothing but* is what most people mean by materialism. I am suggesting not vitalism but a deepening of the physico-chemical view of the organic level to admit what some have called creative synthesis and others, critical moments. The second assumption which had to be outgrown may be called dualistic animism. The traditional antithesis between mind and matter, soul and body, had at least an inhibiting influence upon human thought. It is easy to see how materialism of the dead-level sort played into the hands of this assumption. The third

assumption found its classic expression in Cartesian dualism, and is the philosophical expression of the first two assumptions. I do not think that it is too much to assert when I say that these interlocking assumptions account in large measure for the ineptitude of the traditional discussions of the mind-body relation. But one of the signs of the times is the bursting of the strait-jacket within which reflection has so long been confined.

So much in the way of an orienting introduction. I wish now to wipe the slate clean of these old assumptions and to approach the mind-body problem with fresh eyes. My thesis is, that the living organism, *when properly and adequately conceived*, includes consciousness and is the sole source of that differential behavior which distinguishes it from the behavior of less integrated bodies. Or, to put the argument in another way, I shall maintain that the mind-body problem resulted from false conceptions of both mind and body. I think that it is a good methodological principle that we should not assert a dualism unless there is no escape from it. In the main, modern reflection sinned against this principle because it started with two supposedly given realities, mind and body, whereas it needed to start with only one of these, for only one of them, the organism, is in the strict sense substantial.[1]

My queries will, then, be as follows: Is not the organism the subject of reference of all the knowledge about it gained by the various observational and experimental sciences, including behaviorism? Do not the contributions of these sciences supplement each other? And is there anything in this tested knowledge about the organism which forces us to exclude consciousness from the organism? Again, if the organism is the subject of reference of all this knowledge, what meaning must we assign to mind? If we can answer these questions in accordance with the drift indicated, the traditional mind-body problem disappears, to be replaced by such empirical questions as the genesis of types of behavior and the rôle of consciousness in the organism.

When the behavior of animals is carefully studied, certain

[1] By substantial I mean the relatively permanent subject of reference of our knowledge. All my knowledge of another person attaches itself to his organism as a locus of reference.

characteristics stand out clearly. Reflex action is distinguishable from instinctive action, and this latter is seen to pass insensibly into intelligent action. When this method of approach is adopted we find that we can abstract from the older uses of the word 'mind' and simply note the empirical meaning which has grown up within the bio-psychological setting. We may need to deepen this meaning but we shall not be forced to reject it as a point of departure. It is customary, then, to speak of intelligent behavior and regard mind as a term for the *capacities and internal processes* of the organism which find expression in selection, progressive adaptation and learning by experience. Where we have these capacities, we have mind. The recognition of this situation is often expressed by saying that we know what mind does or how mind functions, but that we do not know mind itself. But this form of statement implies that mind is a substantive thing, coördinate with the organism, which behaves in a describable way. But is it not truer to the facts, and simpler, to say that in instances of intelligent behavior we know how the organism behaves? Is there anything in the facts which demands this assumption of two substantive things?[1] Knowledge of what mind does is really knowledge about the organism. We must be on our guard against the traditional dualism which is engrained in language. As I understand behaviorism on its positive side—in what it affirms rather than in what it denies—it recognizes the factual character of that ordered action which we usually call intelligent, and connects it with the functioning of the nervous system. If we continue to use mind as an objective category, that is, as a category of the physical sciences, we should mean by it the nervous processes which find expression in mental, or intelligent, action. The mind is the brain as known, not so much by nervous anatomy, as by objective psychology. It is the brain as known in its integrative capacities as shown in critically examined behavior. All of these sciences give knowledge about the brain, but they do not give the same kind of knowledge. The term mind is a recognition of this fact and, at the same time, a denial that there is need for any other object of knowledge than

[1] That is, two subjects of reference for our knowledge.

the organism. Obviously, there is no mind-body problem thus far.

But while there is no mind-body problem in the traditional sense when this method of approach is adopted, the problem of the nature and origin of this apparently non-mechanical behavior becomes all the more acute because it becomes specific and tangible. As long as the abstract, mechanical ideal of explanation, an explanation by reduction, ruled thought, the postulate was maintained that this intelligent type of behavior could be reduced to a complex series of purely atomic, or unintegrated, motions. A physical system was supposed to be nothing but the sum of its parts and their immediate relations. But to-day this postulate has been weakened by the growth of the biological sciences. It is, to say the least, just as possible that a system is more than an external sum of parts, that it is an organization in which the whole exerts a control over the action of its parts, that the resultant action is a function of the system. The facts are pushing this latter view to the front. But, if accepted, it leads to the admission of *levels of causality* expressive of the creative synthesis which occurs in nature. In other words, the behavior of organisms forces the scientist to construct categories corresponding to the new range of facts, categories continuous with the old and not conflicting with them, and yet obviously striking a new note. Thus such terms as 'learning by experience,' adjustment, coördination, planning, etc., give the content of the term mental. The behavior of the organism is of the mental, or intelligent, type. The processes and capacities controlling and expressing themselves in this behavior are the mind of the organism; and these are obviously *in the organism as a part of its nature.* In all this, there need not be the shadow of a dualism because there is only one subject of reference of our knowledge. The behavior of the organism is a function of the organism in its changing relation to its environment. This behavior is of the mental or intelligent type, and its natural explanation must lie in the nature of the organism upon which, accordingly, it throws light.

Correct as we believe this approach to be, it does not exhaust the motives which still make the mind-body problem a real one.

Mind has been an ambiguous term somehow felt to cover internal capacities and consciousness; and, as long as consciousness was thought of as alien to the body, mental capacities tended to be loosened from the body in sympathy with it. Not until consciousness is seen to be immanent in the organism will the mind-body problem vanish in that more adequate conception of the living organism which we have predicted.

What, then, is the relation of consciousness to the organism? And how can we insert it into these capacities and processes of the organism which control intelligent behavior? These questions can not be answered apart from a satisfactory epistemology. The epistemology which I shall use has been justified elsewhere, and, in any case, space forbids me to do anything else now but explicitly assume it.[1]

Consciousness is the changing field of the individual's experience. It is the flow of complex content shot through with distinctions and meanings. This given contentual complex is consciousness, and consciousness is nothing other than what is given. Epistemological reflection discovers that knowledge exists only here, as do the experiences upon which knowledge is built. The point to bear in mind is that consciousness is not more than its content, and is obviously non-substantial. It is not a stuff but a flux. For this reason, I have been accustomed to call it a variant.

Now in this consciousness, the reflective self (subject-self) finds the distinction between the physical world and consciousness. Critical development of this distinction in the light of the facts leads the thinker to conclude that he can build up knowledge about the physical world, that is, that he achieves understood propositions which are referred to the physical world as knowledge about it. The character of this knowledge is an empirical affair, obviously; and it apparently falls into such general categories as position, measurements (size, weight, mass, energy), structure, properties, behavior. Such classes of knowledge about the physical world imply no apprehension of the world. This actual knowledge does, however, imply conditions of commerce with the world, conditions which seem to me to be fulfilled by the

[1] See my *Critical Realism* and *The Essentials of Philosophy.*

immersion of consciousness in an organism itself immersed in the world. The principles to bear in mind, then, are three in number: (1) that consciousness alone is given; (2) that knowledge of the physical world is neither an apprehension nor a reproduction of it but knowledge about it—a wholly human and empirical affair; and (3) that consciousness seems to be immersed in the organism just as the organism is immersed in, and a part of, the physical realm.

With these principles admitted, the evident next step is to ask whether there is any good reason to exclude consciousness from the organism. Does consciousness conflict with the organism as known? If we have really wiped the slate clean of the traditional dualisms and begun with fresh eyes, I feel certain that not a single reason can be advanced. I have canvassed all the suggested ones I could discover, and have come to the conclusion that consciousness is literally *in* the brain.[1] Yet, because consciousness is not a physical thing but a variant, this presence in the brain is unique and not comparable to the relations between physical things. We shall see that the lack of recognition of this fact has occasioned the unsuitable way in which the question of the efficacy of consciousness has been broached.

We have knowledge about the brain but no apprehension of the stuff of the brain. Consciousness is the only element of nature which is literally given and with which we have a revelatory acquaintance. It follows that the *setting* of consciousness in the brain can not be given. In other words, we are precluded from witnessing the ontological linkage of consciousness with its setting in the brain. Picture-thinking will not help us and is apt to lead us astray into patent absurdities. The situation is necessarily unique. The individual's consciousness is the only reality literally given. But he is convinced that this consciousness is in the brain about which he has only the knowledge which we described above. We must conclude that consciousness is continuous with its setting, but that we can only have knowledge about the whole functional system in which consciousness is. This fact should not disconcert the philosopher who is well aware

[1] The double-aspect view is also an essential recognition of this conclusion. My epistemology obviates certain logical objections to the customary form.

that none of the real linkages in the physical world is open to inspection.

But if the way of intuition is shut off, we must resort to knowledge to gain some notion of the function of consciousness. And it is at this point that I am inclined to diverge from what may be regarded thus far as an interpretation of the double-aspect view in the light of critical realism. I am persuaded that consciousness can be held to be efficacious.[1] What I am going to say from now on is more speculative and hazardous than the points I have so far made. The principle upon which I shall build is: *The efficacy of consciousness must be relative to its function.* This suggestive principle has been sadly neglected in the past. How long I have pondered over the query, assigned in James's *Principles of Psychology* to Mercier, how an idea of beefsteak can bind together two molecules! Everyone will remember Clifford's similar jibe. Now when the question of the efficacy of consciousness has been raised, psychologists have tended to assume that one could only mean mechanical efficacy of an interactionistic, or dualistic, type. I am going to suggest something quite different from this. It is really a plunge into *real*, as distinguished from *phenomenal*, causality. And one must further bear in mind that for me consciousness is a variant identical with its content and having no mysterious depths.

What is the probable function of consciousness? To answer this question we might either study processes of learning of a motor type or reflect upon cases of action after deliberation. In the first type of case, it seems clear that some sort of ordered fusion is facilitated by consciousness. It plays about growing points of integration. In action after deliberation, we have a conscious process of creative selection in which perceptual and conceptual situations are studied in the light of some purpose. Our conscious decision appears to be the internal stimulus of action. Our natural belief is that this process counts for something, that, without it, intelligent behavior would be impossible. And I think that this belief is correct. But how shall we conceive the process in the brain? Here is my suggestion: The

[1] For a typical denial of this further step see "The Mechanics of Intelligence," by Howard C. Warren, THE PHILOSOPHICAL REVIEW, XXVI. 6.

cerebral processes involved in choice, and in fact in any complex process of integration, are processes of internal adjustment within a system in the making. In such systems consciousness is a natural ingredient whose function is to aid in the bringing together of the parts into a new integration by the cues it affords. Literally, it assists the brain to solve problems. Its function involves indeterminate integration.[1] Of this process of integration, the only part open to inspection is, of course, consciousness itself. It is as though another guided himself by what we saw.

I shall allow myself certain comments at this point. Chosen, planned action involves a changing system of enormous complexity. It is to me impossible to conceive how the end-term could be reached were the process blind. Once more, consciousness, as a continuum, corresponds to the organic continuity of the system which is changing. As we pointed out earlier in the paper, a system is not an external sum of parts, its unity is more than the result of a process of addition. Now it is just to the aspect of changing unity that consciousness corresponds. It does not link molecules, for that is the old mechanical notion. It is not a physical thing; that is, it is not the whole of a physical thing, it is not a substance. It is a variant correlated with the shifting unity of a dynamic system. It is, as it were, the eye of that system. All this can be conceived without a dualism when we remember that the setting of consciousness can not be apprehended. It is the tendency to picture the setting in terms of naïve realism and then to oppose it to consciousness that leads to dualism.

One striking conclusion follows from this way of approach. The function of consciousness and, therefore, its efficacy, concerns the temporal dimension of reality. In less technical language, it is to be associated with change in the cerebral system. Here, and here alone, are we present to some part of the process of *real*, in contrast to *phenomenal*, causality. Consciousness is inseparable from a reality that changes, a view which fits in

[1] Indeterminate integration means the actual self-determination of a system undergoing change. The result is not fixed independently of the system and the crisis is a genuine problem whose solution is not given in advance.

with the empirical nature of consciousness itself, which is usually described as a stream or flux. Thus the knowledge of the nervous system that we have fits in with the conception of consciousness as assisting in those new integrations which the exigencies of the situation of the organism are constantly demanding. Such critical integrations must be intelligent if they are to meet the requirements of the organism. But we can not understand their intelligence unless intelligence is actually at work within them as a part of their nature. The theory of knowledge I have advanced makes this immanence conceivable. But it is obvious that such a view requires us to relinquish a dead-level idea of efficient causality and to affirm grades of causality corresponding to the complexity of organization of systems and their qualitative delicacy of internal adjustment. Such an implication is less revolutionary than it may at first glance seem; for it harmonizes with the increasing admission of creative synthesis in nature. But, surely, creative synthesis suggests new properties and these involve new kinds of internal operation. What I can say here is necessarily sketchy, yet I hope that it gives a clue to my way of approach to the consciousness-brain problem.

The two conclusions which stand out thus far are: (1) the immanence of consciousness; and (2) its function as guiding and assisting integration. Cerebral integrations can not arise through a mere blind pull and haul. Non-mechanical behavior can not be the expression of mechanical methods. We must take evolution seriously.

Let me next point out how this way of approach enables us to evade the customary problems confronting all forms of dualism such as, How can consciousness act upon the motor tracts of the brain? Consciousness has been assumed to be a reality external to the cerebral motor patterns and somehow selecting the proper one and touching the key that will send it off. Thus, even M. Bergson postulates an inbreak of psychical energy upon the brain. But, surely, the empirical objection to this is, that we ought to be aware of psychical energy; yet we are aware of only mental content. How does our own immanence-view enable us to avoid this traditional *impasse?* Simply enough. I would

take the sensori-motor process as a unit and hold that the cortical process of which consciousness is a variant is always continuous with a motor pattern of the brain. In other words, cortical integrations arise in the same system as motor tracts. This means that ideas are from birth immersed in neural processes which have motor extensions. In brief, ideas and motor tendencies are always on the same circuit. A dominant idea means a dominant cortical system, and such a system has its genetically developed motor roots. It is for this reason that a dominant idea which is not inhibited passes into action. A dominant idea is a sign of a completed integration which settles into action. Hence, in the brain itself, idea and action are only stages in a continuous neural process; but because only the idea is given to us we are prone to erect a discontinuity and to ask how the idea by itself—which we forget is an abstraction from its ontological setting—can *produce* what follows. There is no bare thought acting from outside and mechanically upon motor patterns. The efficacy of consciousness is one of guidance *within* a system rather than one of dynamic action *upon* a system.

We are forced to conclude that the relation of consciousness to the brain is internal and unique. It is a relation which can be understood in some measure only when a correct knowledge about the brain's method of action is added to a proper conception of consciousness. Only then can we achieve a penetrative notion of the function of consciousness within the shifting action of the cortex. Only then can we realize how intelligence can be at the helm and account for intelligent action in response to the demands that new situations bring. M. Bergson is correct in his premise that none of the familiar stock of relations is equal to the subtlety of this relation. But his epistemology and his conception of the brain are quite different from ours. For him, the brain is simply a system of motor patterns; for us, the brain is an ideo-motor system.

We are at last in a position to suggest that constructive union of behaviorism and introspective psychology—I use this latter term without definition for the broader current of psychology—which is a desideratum of to-day.

We saw that mind, as a category of natural science, stood for empirically witnessed, intelligent behavior and the capacities and internal processes of the organism which expressed themselves after this fashion. The sole subject of reference is the organism. I know others primarily only in terms of what they do; or, to put it more broadly, I know them *through* what they do, this doing including the use of language. It is for this reason that behaviorism rejects consciousness as long as possible and satisfies itself with a study of the laws of those internal processes which control conduct, these laws being determined in entire agreement with the principles of natural science. Thus behaviorism busies itself with an 'objective' study of mind. This means that the assumptions and methods are those of any other natural science, that behaviorism is securing knowledge about the organism supplementary to that gained by the other biological sciences. It does not *need* to reckon with consciousness either as datum or as result any more than does chemistry. And we must admit that behaviorism could remain at this point of view and refuse to supplement itself by the suggestions of introspective psychology. But such a refusal would involve sheer dogmatism; for all knowledge is objective and presumably harmonizable from the proper point of view.

Now the outlook at which we have arrived as the result of a suggestive epistemology enables us to deepen our knowledge of these internal processes to which behaviorism calls attention, by means of the knowledge acquired by all the other methods currently used by psychology. When we insert consciousness, which we now realize is the sole reality literally given in any investigation, into these internal processes in the way suggested, our knowledge about the organism is lit up, as it were, from within. Each individual is literally present to the extent of his consciousness in those cortical processes about which he, otherwise, has only knowledge. It is for this reason that mind alternates to-day between being a term for the brain and a term for consciousness.

But this deepening of the objective category of mind by the acknowledgment of the guiding presence of consciousness in the internal processes is continued by the modern appreciation of

the genetic foundation of the consciousness and action of any one moment. Mind must be approached both phylogenetically and ontogenetically, otherwise both its conscious content of any period and its constant capacities can not be understood. What we can do now depends upon what we have done in the past; what we can think now depends upon what we have thought in the past. There is conservation and growth on both ends of the sensori-motor circuit.

In conclusion, let me apply this position to memory. We must, of course, make the elementary distinction, which I fear M. Bergson does not always make, between the fact of revival and the use made of the revival in the memory-judgment. M. Bergson contends that the brain can not account for memory. Consequently, he erects one of his tantalizing antitheses between space and time. But his contention rests in part upon his theory of perception, which is one of the weak parts of his system. The pertinent question before us is this: Can the brain so conserve the structure of its past functioning that a later functioning will contain similar conscious contents? The view of consciousness which we have been championing makes it so completely one with the functioning cortex that what we are apt to call a revival comes under the principle that what a thing can do once it can do again to the degree that it is the same. I see no reason, therefore, to postulate either an unconscious consciousness or a storehouse of ideas. But I do believe that the mind-brain which is the setting, source and condition of consciousness is a reality, complex beyond imagination. And this reality we can neither apprehend nor picture; for we can gain only knowledge about it. The metaphysical implications of this position we must postpone until another time. Suffice it to assert that consciousness does not arise within a brick-bat sort of matter as naïve materialism had to suppose. The fact that consciousness is not alien to the physical world at its highest level throws a light upon the stuff of nature from the inside. Thus the critical naturalism which follows from critical realism transcends the old materialism-spiritualism controversy. A deeper analysis brings new possibilities as its richest reward.

This suggested solution of the mind-body problem follows in my opinion from a critical epistemology; and, while more subtle than interactionism, has fewer objections to meet. Interactionism is compelled to face the question of the efficacy of consciousness in an analogous way and has, in addition, those perennial problems which face dualism. I hope that my thesis will at least be suggestive.

R. W. SELLARS.

UNIVERSITY OF MICHIGAN.

# PROCEEDINGS OF THE AMERICAN PHILOSOPHICAL ASSOCIATION; THE SEVENTEENTH ANNUAL MEETING, PRINCETON UNIVERSITY, DECEMBER 27 AND 28, 1917.

## REPORT OF THE SECRETARY.

THE seventeenth annual meeting of the American Philosophical Association was held at Princeton University, Princeton, N. J., on December 27 and 28, 1917.

The business meeting of the Association was held on December 27, at 11 A.M., with President A. W. Moore, of the University of Chicago, presiding.

The Treasurer's Report for the year, as audited and approved, was read and accepted. The report follows:

E. G. SPAULDING, TREASURER, IN ACCOUNT WITH THE AMERICAN PHILOSOPHICAL ASSOCIATION.

*Time Account.*

Debit.

| | |
|---|---|
| Total time account, January 1, 1917 | $410.60 |
| Transferred from check account | 100.00 |
| Interest, January 1, 1917–January 1, 1918 | 12.42 |
| | $523.02 |

Credit.

| | |
|---|---|
| November 8, transferred to check account | $200.00 |
| Balance on hand, January 1, 1918 | 323.02 |
| | $523.02 |

*Check Account.*

Debit.

| | |
|---|---|
| January 1, 1917, balance on hand | $231.87 |
| Received from dues, 1917 | 223.00 |
| Received from time account | 200.00 |
| | $654.87 |

Credit.

| | |
|---|---|
| January 3, 1917, transferred to time account | $100.00 |
| New York meeting, entertainment | 19.00 |
| Clerical expenses | 19.92 |
| Stamps and stamped envelopes | 33.31 |
| Printing | 56.50 |
| Secretary's expenses, New York meeting | 16.90 |
| Stationery | 4.25 |

| | |
|---|---|
| Miscellaneous, telegrams, express, tips, etc. | 12.58 |
| International Journal of Ethics | 200.00 |
| | $462.46 |
| Balance on hand, January 1, 1918 | 192.41 |
| | $654.87 |

*Total Funds on hand, January 1, 1918.*

| | |
|---|---|
| Time account | $323.02 |
| Check account | 192.41 |
| | $515.43 |

Audited and found correct:

JAMES B. PRATT,
A. K. ROGERS.

The following new members were elected on recommendation of the Executive Committee: Professor H. H. Apple, Franklin and Marshall College, Lancaster, Pa.; Professor Jesse Herman Holmes, Swarthmore College, Swarthmore, Pa.; Professor Ethel M. Kitch, Oberlin College, Oberlin, Ohio; Professor Homer B. Reed, University of Idaho, Moscow, Idaho; Dr. Ethel Sabin, Bryn Mawr College, Bryn Mawr, Pa.; Dr. Henry M. Sheffer, Harvard University, Cambridge, Mass.

On nomination by the Executive Committee, the following officers were elected for the ensuing year: *President*, Professor Mary W. Calkins, of Wellesley College; *Vice-President*, Professor E. G. Spaulding, of Princeton University; *Secretary-Treasurer*, Professor H. A. Overstreet, of the College of the City of New York; *New Members of the Executive Committee*, Professor Warner Fite, of Princeton University, and Professor Savilla Elkus, of Smith College.

The Executive Committee also reported that it recommended the adoption of the following amendment to Article III, Section 2, of the Constitution of the Association: There shall be an Executive Committee of nine members, three of whom shall be the officers of the Association, and six of whom shall be members at large, two members to be elected each year, for a period of three years.

The Executive Committee would understand that this amendment, if adopted, would mean that at the annual meeting of 1918 two members of the Executive Committee would be elected for two years, and two members for three years, the remaining two members being those who were elected to the Committee at the annual meeting of 1917.

The Executive Committee recommended the appointment of a Committee of two to confer with the 'committee on the time and place of meeting' of the American Association of University Professors, with a view to the avoidance of conflict in the meetings of the Associations. This recommendation was accepted and adopted.

Reports of committees being called for, Professor Lovejoy, as chair-

man of the Committee on Discussion, presented the following report:

Your Committee on Discussion appointed at the Annual Meeting of 1916, submits the following report:

This Association, as the Committee conceives, has three characteristic objects, to which, however, equal weight can not be assigned:

1. The Association exists partly to promote what may be called philosophical scholarship—the study of the history of speculative thought and of its interaction with other phases of human culture. This part of the work of the society has been less frequently represented in the programs of recent years than is, in the opinion of the majority of the committee, desirable. Measures might well be taken to stimulate a somewhat greater production of contributions to the historiography of philosophy. A possible aid to this end would be the setting aside of an occasional session or part of a session for purely historical papers.

2. Since the membership of the Association consists in the main of teachers in colleges and universities, it falls within the natural province of the society to consider from time to time the pedagogical aspects of the subject—to discuss methods of effectively teaching philosophy, and the place and function of the several branches of it in the college curriculum. While the committee thinks that this object should be kept decidedly subordinate to the other two, it believes that an occasional experience meeting devoted to these problems might sensibly contribute to the improvement of philosophical instruction in this country.

3. The Association exists chiefly for the promotion of philosophical inquiry. Its principal purpose is to assist towards the attainment of a progressively better understanding of philosophical problems themselves, by means, primarily, of a better understanding by philosophers of the results of one another's reflections. The material of philosophical inquiry presents itself concretely in the form of *aperçus* arising in the minds of individuals. For fruitful and cumulative inquiry, three things are manifestly needful: first, that fresh ideas shall actually be furnished through the spontaneous and original activity of individual minds; second, that these ideas shall be rigorously tested; third, that, in so far as they emerge successfully from their testing, they shall be developed, correlated, and articulated with other and older insights.

The first of these desiderata comes, in the main, by nature or not at all. It is the affair of the individual; it is not to be commanded at will nor procured directly by planning and contrivance, though it is probable that conditions relatively favorable to it can be created, and that it is oftenest in course of the interchange of ideas between minds,

or in the heat of discussion, that fresh ways of looking at old problems suggest themselves. However this may be, it is manifest that the other two parts of the work of inquiry—the testing of philosophical hypotheses, and the interadjustment and articulation of them—are necessarily, in great measure, social processes. They require the convergence of many competent and instructed minds, not merely upon the same problems, but upon the same ideas, arguments or considerations pertinent to common problems. And such convergence is, as experience abundantly shows, a thing not easily attained. It is not to be had merely by aspiring after it; it can be had only at the cost of taking thought as to the means to its attainment, and of voluntary organized coöperation to that end. The difficulties in the communication of philosophical ideas and reasonings from one mind to another are notorious; that they have not been overcome is sufficiently evidenced by the existing degree of divergence of opinion among philosophical specialists dealing with common problems, and all actuated by the same desire to apprehend the truth, and the whole truth, with respect to those problems.

Your committee accordingly believes that one of the principal functions of this society is to bring about a genuine meeting of minds upon actually *identical* points of the logical universe, or to come as near to that result as is possible; in other words, to promote the coherent, methodical, mutually intelligible, and constructive discussion of common problems. It is not, indeed—for reasons which have been already indicated,—the committee's opinion that this object should exclude other matters from the program. Room should be given, not only for historical papers and occasional discussions on the teaching of philosophy, but also for reports of reflections upon purely philosophical topics which may have occurred to individual members. Provision for such reports is manifestly needful, in order that the meetings of the Association may be of use in relation to the first of the three phases of philosophical inquiry which have been mentioned. But an especially important part of the business of such a body as this is concerned with the second and third stages—with the conversion of the spontaneous *aperçus* of individual minds into rigorously tested, adequately explicated and properly correlated philosophical insights.

The committee, therefore, holds it to be inadvisable that any change should be made in the programs of the annual meetings which would give, or even appear to give, a subsidiary place to an activity which is so important a part of the Association's reason for being. The committee is of the opinion that one or more of the regular sessions of each

meeting should continue to be devoted to the discussion of topics selected and announced beforehand—and as long beforehand as is practicable; that leaders should also be chosen in advance, and as nearly a year in advance as may be; and that every effort should be made both to bring as many minds as possible to convergence upon the same specific questions, and also to bring about a direct and unequivocal *joining of issues* in the discussion of those questions.

It is this last, as has already been intimated, which is the great difficulty. The measures adopted in the planning of the discussions of recent years have, as was natural enough, not wholly overcome it. The plan following, differing in some particulars from those heretofore in use, is recommended by your committee as likely to realize more effectually the object sought. It should in any case, the committee thinks, be given a trial for a period of two years.

I. At least one general session shall be devoted to prearranged discussion.

II. The Executive Committee shall have power to determine shortly before the annual meeting whether the discussion shall be continued at a second general session, or at a section meeting, or shall not be prolonged beyond a single session.

III. For the year 1918 the topic for discussion shall be selected by the Executive Committee.

IV. In the fall of 1918, and of any subsequent year in which the present plan is followed, the Executive Committee shall invite the members of the Association to suggest topics for the next meeting but one; and shall, taking these suggestions into consideration, submit at the ensuing annual meeting at least two alternative topics for the discussion of the year following. The final choice of a topic shall be made by a majority vote of the members present at the annual meeting.

V. The incoming Executive Committee shall immediately choose one leader, who, if he accept the appointment, shall thereby assume general responsibility for the arrangement of the discussion. He shall, as soon as possible, select two or more other members to collaborate with him as leaders in the discussion. It is to be desired that, in making these selections, he take care that different angles of approach to the problem under discussion be represented.

VI. The leaders shall communicate with one another as soon as possible after appointment, and hold at least one meeting (traveling expenses to be paid by the Association) to plan for the discussion. It is recommended that they give special consideration—so far as the character of the topic renders it advisable—to the following:

(1) To deciding what terms pertaining to the subject (if any) require special definition in order to avoid confusion and equivocality in the discussion.

(2) To agreeing, if possible, upon a common usage of these terms in their contributions to the discussion; or, if this is impossible, to stating explicitly each his own usage.

(3) To formulating any principles or presuppositions, relevant to the subject, upon which they are in agreement.

(4) To formulating, if possible, the questions upon which they do not agree, but which they agree in regarding as *crucial* for the settlement of the main question under discussion.

(5) To stating briefly the theses, with respect to the questions last mentioned, which they severally expect to maintain.

VII. It is recommended that the results of these preliminary discussions of the leaders *inter se* be in some manner notified to the members of the Association before July 15.

VIII. All members, including the leaders, shall be invited to publish, in philosophical journals or in some other manner, papers on the subject to be discussed, or to send to the Secretary abstracts of arguments, the substance of which shall be communicated by him to the members in advance of the annual meeting.

IX. Teachers and students of philosophy throughout the country shall be asked each year to give some special attention, in their courses or discussion clubs, during the fall term, to the subject proposed for the discussion at the ensuing meeting of the Association.

X. A select bibliography of the subject to be discussed shall be published by the leaders not later than September first.

XI. All members of the Association shall be invited by the Secretary to contribute papers to the discussion at the annual meeting.

XII. It is recommended that the program of the annual meeting be issued not later than December fifteenth.

Respectfully submitted,[1]

A. O. LOVEJOY, *Chairman*,
C. M. BAKEWELL,
J. E. BODIN,
M. W. CALKINS,
DURANT DRAKE,
W. P. MONTAGUE,
A. W. MOORE,
R. B. PERRY,
G. H. SABINE,
W. H. SHELDON,
E. G. SPAULDING,
G. A. TAWNEY.

[1] The final draft of the above report was adopted by a majority vote of the Committee, three members being absent, and Professor Creighton dissenting.

The motion having been made that the report be both accepted and adopted, an interesting and lively discussion followed, so that it was necessary to adjourn the business meeting until the next day, Friday, at 2 P.M., in order further to consider the report.

The meeting then adjourned until Friday at 2 P.M.

E. E. SPAULDING,
*Secretary.*

ADJOURNED MEETING, FRIDAY, DECEMBER 28, AT 2 P.M.

Previous to the continuation of the discussion of the motion to accept and adopt the report of the Discussion Committee, the following business was transacted:

On motion of Professor Lovejoy, it was voted to be desirable that the papers submitted in the principal discussion of this year be published under one cover.

The Committee on International Coöperation reported that it had not been able to accomplish very much; the Committee was continued.

On nomination of the Executive Committee three new members were elected, namely, Miss E. Crane, Lake Erie College; Professor Arthur Mitchell, University of Kansas; and Dr. Arthur Upham Pope, Amherst College.

On motion of Professor Tufts, it was voted that the Executive Committee, either directly or through a special committee, consider further, in connection with the Western and Southern Associations, the problem of securing more fully national and widely representative occasional meetings.

In the absence of the chairman of the Committee on Appropriations, Professor Dewey, the Treasurer reported that, on recommendation of the Committee, the sum of $200 had been turned over to the *International Journal of Ethics.*

Professor Tufts expressed his gratitude to the Association for the generous support rendered to the *International Journal of Ethics.*

The Association then returned to the discussion of Professor Lovejoy's report, the preamble of which was withdrawn. Professor Creighton finally presented the substitute motion, that the Executive Committee be instructed to arrange for the discussion next year in accordance with the essentials of the report. This motion having been seconded, the motion was made and seconded that Professor Creighton's motion be amended so as to read that "the report be accepted, and the Executive Committee be instructed to act in accordance with the report."

On motion of the Secretary, the Association voted to limit the speakers on the substitute motion to two minutes' debate. After some discussion as to what the 'acceptance' of the report implied, the motion to amend the substitute motion was adopted, as was also *the substitute motion as amended*—by a unanimous vote.

On motion of Professor Tufts, a very cordial vote of thanks was extended to Princeton University, and to its department of philosophy, for the extremely generous hospitality extended to the Association during its meeting.

The meeting then adjourned.

E. G. SPAULDING,
*Secretary.*

**Doctrinal Functions.** C. J. KEYSER.

Among the undefined terms in any mathematical system of postulates there is always at least one term denoting an *element* (a thing as distinguished from a relation). These primitive elements, being required merely to satisfy the given postulates, are not completely determinate; hence the terms in question denote, not constants, but variables, and in the statement of the postulates may be advantageously replaced by such symbols as $x$, $y$, etc. If we give admissible meanings, or values, to the variables, we are said to interpret them and therewith to interpret the postulates as well as all propositions deducible from them. Such an interpretation is always accomplished by description, never by definition. It can be proved that for any postulate system there are infinitely many interpretations. Owing to the presence of the variables, the postulates are not propositions; they are propositional functions; these together with those deducible from them do not constitute a doctrine but a doctrinal function. An interpretation of this function yields a doctrine. Thus, Professor Keyser contends, such a work as Hilbert's famous *Foundations of Geometry* is not a doctrine but a doctrinal function. Among the infinitude of doctrines of which it is the source, some are geometric and some are not.

**The Subject-Matter of Formal Logic.** M. R. COHEN.

1. Current text-books on logic all contain linguistic, rhetorical, psychological, metaphysical, epistemologic, and pedagogic information, as well as elements of most other sciences under head of 'scientific method.' The kernel, however, of the traditional Aristotelian logic (as embodied in its doctrine of classes, propositions, conversion, syllogism, etc.), is mathematical in nature (*cf.* Boole), though it may not be expressed in any special symbolic language. The failure to distinguish carefully between these various points of view has bred confusion in philosophy.

2. Confusion also results from calling the principles of logic 'laws of thought.' That they are not laws according to which we do think is not only evident from elementary introspection, but from the very existence of fallacies. Nor is it enough to define the principles of logic as laws according to which we *ought to think*, since the principles of every science are laws according to which we ought to think if we would think correctly on its subject-matter.

3. The distinctive subject-manner of logic is formal truth—not the truth of any proposition *per se*, but the truth of any assertion that it does or does not necessarily follow from another proposition or group of propositions. Such assertions are most clearly put in the hypothetical form—if *a* then *b*. This form is universal; *i. e.*, applicable to every subject-matter, practical, esthetic, or theoretic; *e. g.*, you must see a doctor (if you want to get better):

> Had we never met and never parted
> We had not been broken hearted.

4. Logical necessity should not be confused with the feeling of certainty. Propositions are logically necessary if their contradictions are devoid of possible meaning. The assumption that propositions are related according to the laws of logic ('rules of inference') is necessary for every existing science. (Distinction between sufficient and necessary assumptions. Material assumptions mostly of the former kind.)

5. As against the empiricism (nominalism) of Hume, Mach, or Schiller, which denies the existence of objective necessary relations, and reduces everything to a consideration of the actual existence of terms or 'impressions,' it is to be noted that in all sciences the consequences of hypotheses are deduced irrespective of the material truth of these hypotheses. Two contradictory hypotheses are both assumed to have consequences, though both cannot be true in the material or existential sense. (The hankering after 'reality' is no part of scientific procedure.) Science like art and practical effort seeks to penetrate the region of the possible beyond the actual.

6. The discovery of non-Euclidean geometry and of complex numbers has shown that all mathematical truths are formal; *i. e.*, assert the logical consequences of possible hypotheses. Hence, the identity of the subject-matter of logic and of mathematics is now demonstrable.

7. Confusion between logical, psychological, and ontologic considerations underlie the dogma, "Nothing in the conclusion except what is already contained in the premises." Logical rules are rules of combination or transformation. But matters of fact (in time and space)

can not be deduced from logic without sense data. Hence, the sharp distinction between logical and factual or physical truth.

8. Untenability of the view that the relation between premises and conclusion which is the object of science exists 'in the mind' only (supposing, as this view does, the knowledge of an 'external' world). If things logically related also exist in the mind, the distinction between logic and physics is still to be maintained. Hence, logic is no more dependent on doctrines of 'mind' or 'thought' than on theology.

9. Formal rules in general may be likened to rules of procedure—applicable to all members of a group irrespective of their individual characteristics. Logical rules are rules according to which all entities, physical, psychical, symbolic, or complexes, can be combined. Hence, logic is an exploration of the field of the most general or abstract possibility. Such information is very 'thin,' but important in ruling out impossibilities and revealing possibility of hypotheses other than those usually assumed.

10. Formal truth is not independent of the meaning of propositions, but only of particular or non-logical properties. This explains apparent paradox of the fruitfulness of symbolic or purely formal reasoning. Logic reveals the relational structure of systems.

11. Induction consists in more or less rationalized methods of guessing at hypotheses—logical to the extent that the precise degree of probability is determined. In actual scientific thought neither facts nor hypotheses can claim absolute priority.

12. General conclusion—Kantian rationalists are wrong in claiming logical necessity for material principles, such as Euclid's geometry, Newton's mechanics, or Christian ethics. But the empirical or experimental theory of knowledge and morals is wrong so far as it denies that logical principles are *a priori*, *i. e.*, necessary rules without which there is no rational experiment or even significant doubt. (The mathematical concept of an invariant in a group of transformations defines the *a priori*).

**Ethical Aspects of Internationalism.** W. K. WRIGHT.

The air is full of projects for the prevention of future wars. All of these contemplate some way to settle international disputes peaceably. Many of them show that their authors realize that some sort of international federation is necessary. Few of them, however, realize all of the ethical possibilities that such a federation would afford, or the complexity of the psychological conditions necessary to bring it about.

Peace through union between previously conflicting groups has come in the past in two ways: (1) One group or nation has forcibly

conquered the others, its rule has become just, and its original force has become transmuted into a moral authority acceptable to the subjugated people. (2) Groups have voluntarily combined because of a common sentiment. In either case the lasting tie has been a sentiment, and they differ merely as to whether force first effected the union, and a sentiment developed to sustain it, or whether the sentiment first existed, and brought the federation into existence. The Roman Empire would be an example of the former; our own United States of the latter. None of us desire an international federation originating in force; that is the German way, not ours. We desire a union effected in the second manner.

Consequently we have before us the tremendously difficult problem of developing an international self-consciousness that will lead people in the different nations to desire a federal union. Such a self-consciousness must be fostered through (1) a rational and (2) an emotional appeal. (1) The international federation must be shown to embody a comprehensive moral ideal. The federation would impart to every nation added dignity and security, together with increased respect for itself and for other nations, and it would make possible to nations and to individual citizens larger commercial, industrial, scientific, artistic, and educational opportunities than are now possible. Both nations and individual citizens would thus attain larger self-realization through a federated humanity. (2) A sentiment for humanity must be fostered in all nations and individuals. This sentiment can be developed much as national patriotism is fostered. The new sentiment must be understood in no sense to be a rival of national patriotism, but its complement. Concrete imagery with associated emotions can be developed through international songs, flags, holidays, statues and other works of art, etc. Christianity and socialism can both be of assistance, and ideas can be adapted from Comte's religion of humanity.

The first step requisite to the cultivation of international ideals and sentiments must be the complete destruction of German militarism. This accomplished, it will be possible to begin the cultivation of the sentiment that will ultimately bring such an international federation into existence. During the course of the war a common sympathy is developing between ourselves and our allies, and it will strengthen our morale to feel that we are fighting for the realization of humanity and internationalism.

**Discussion, Ethics and International Relations.** J. H. Tufts.

*A.* In a dynastic state whose nature is to seek dominion, and in which dynastic and national loyalty are identified, a feudal morality

finds in patriotism a sufficient ethical sanction (Veblen, *Imperial Germany and the Industrial Revolution. The Nature of Peace*). Bismarck apparently accepted this for himself, but thought it necessary to justify war to the common people by making it appear defensive. The religious counterpart of this feudal attitude appears in the conception of the national God.

*B.* The military ruling class has both by tradition and choice a *Herren moral.* It is not necessary to charge Nietzsche with bringing on the war, but he certainly thought he was advocating (1) a *Herren moral*, and (2) a morality the reverse of the general morality of Christendom. A class which believes in its divine right to govern will naturally find such a *Herren moral* congenial. A nation which believes its Kultur superior will accept so much of a *Herren moral* as to make explicable collisions with codes of inferior culture.

*C.* The conflict in standards is due to the opposing attitudes of those who already possess all that they need, and those who are obliged to seek new opportunities for expanding population and needs for raw material. It is analogous to the difference between the morality of property owners and syndicalists.

*D.* An idealism which rejects any empirical element or tests, if it has once come to find the content of its ideal in the state, does not shrink from any consequences and hence will be at variance with the ideals of those who consider consequences (Dewey, *German Philosophy and Politics*). Utilitarian philosophy cannot appreciate the ethical ideal of the state (Münsterberg).

Elements of truth or half truth may be found in all these explanations. An ethics adequate for an international democratic society cannot be the ethics of a ruling class; on the other hand, it cannot be the ethics of vested rights to the exclusion of provision for growing needs. But it must separate sharply between economic needs which can and should be met through coöperation, and alleged needs of dominion. Nor can the ethical consciousness abdicate for any of the reasons in A–C.

**Ethics and International Relations.** W. E. Hocking.

I propose to inquire how far ethics can apply to international relations, and what kind of conceptions can obtain in a democratic international society.

Moral consciousness, organizing itself at first on the basis of relationships in small groups, has come to conceive both its values and its standards as universal and objective.

The sharp contrast between the ethical judgments pronounced by

members of the opposing nations in the present war challenges the assumed universality and objectivity of the moral consciousness. Leading answers are:

I. No ethical judgment upon such national acts as the present war is appropriate. "International conflicts are not so much moral events as they are the clashing of social forces" (Warren, *International Journal of Ethics*, April, 1916).

II. The ethical predicates appropriate to individuals are not applicable to nations or states. The state is itself the universal and transcendent aspect of man. Its safety is supreme law (Rümelin, *Politics and the Moral Law*).

III. Many at least of the ethical predicates have no applicability, for the state is the community organized for the single purpose, power. It would be a betrayal of trust to admit restriction upon this (Treitschke, *Politics*).

IV. The conflict of standards is due to a difference in group moralities.

**Shall We Repeat Aristotle?** Henry B. Smith.

With the introduction of the *null*-class (nothing) and the *one*-class (universe) into logic it was discovered that many of the implications of the traditional science no longer hold true, if the terms are allowed to take on these limiting values, and this breakdown was not infrequently pointed out as involving the bankruptcy of the old logic.

The reasons for this latter misunderstanding were: (1) The assumption that not more than one system of inference can be constructed and that common logic if it be true must consequently hold for all special cases; (2) that, since *no a is non-a*, must seemingly be assumed true for all meanings of *a*, it must hold when *a* is allowed to stand for the null-class.

It is proposed to show in this article: (1) that the classical logic is best regarded as a special case of certain more general systems of inference (the field of its application being restricted so as to exclude 'nothing' and 'universe' as possible meanings of the terms); (2) that by assuming *no zero is one*, to be a false proposition (and we will show that there is nothing in the definition of the null-class to prevent this), we can construct a system of inference of wider application than the common system in which all of the implications of the common system hold true; (3) that there exist other systems of inference, each one more general than the ordinary logic but of varying degrees of generality *inter se*.

**Symbol Logic and Bertrand Russell.** CHRISTINE LADD-FRANKLIN.

1. Symbol logic is a subject which the philosopher would be much benefited by pursuing. But the symbol logic of Peano, Whitehead and Russell is a form of logic which (as they frequently state) is intended solely for the mathematician—it has been given, from the beginning, a purely mathematical trend. Nothing could be more remote from the interests of the general reasoner, and especially of the philosophical reasoner. No one but a thoroughgoing mathematician can read mathematics, and the most intricate branch of mathematics, with profit.

2. Even if the philosopher had time to become a mathematician, he would perhaps find Bertrand Russell a somewhat unstable guide. How many of his views has he not given up since the *Foundations of Geometry!* But few readers of the *Principles* realize that it has already been superseded by the *Principia*—that classes, propositional functions and even relations, have all been thrown into the discard—that the No Classes Theory, with all its consequences, is now in the saddle. It may seem a bit disingenuous that the *Principia* is said in the preface to be a new work (and not simply Volume II of the *Principles*), simply because fundamental questions which have been left "obscure and doubtful" have now been given "what we believe to be satisfactory solutions." The change by which this has been accomplished—not the zigzaggedness theory, nor the small classes theory, which might have served, but the "drastic" No Classes Theory—is far more fundamental than these words would imply.

3. The so-called new relation *epsilon* of Peano and Russell is an example of the infelicities of their form of symbolic logic: there is nothing peculiar in the *relation* concerned—the specificity is simply in the subject term, which is "individual." The only reason given for regarding this *relation* as peculiar—that it is not subject (as is the relation) to the rule of syllogism—is wholly fallacious; that to confound in a middle term the *sensus compositi* and the *sensus divisi* is a source of danger has been a commonplace of logic since the time of the scholastics. That an inept symbolism is made use of in *mathematics*, which has for a fundamental interest the point and the "variable," (*i. e.*, individuals) would be of no consequence, but Russell and Peano treat this "addition" as constituting an important improvement over the logic which preceded them—that of Peirce and his school—instead of which it is simply erroneous.

4. A substitute for the all too mathematical symbolic logic of Bert-

rand Russell I shall offer, for preliminary discussion, in a course of ten lectures on "Symbolic Logic for the Logician" (as distinguished from Symbolic Logic for the Mathematician) which I am to give, at once, before the Philosophical Department of Harvard University.

**The Will to Mastery and the Æsthetic Experience.** HELEN PARKHURST.

The aim of the paper is to establish a tentative definition of æsthetics in terms of a theory of the impulse to self-assertion as the basic law of development of individual and racial consciousness. A brief sketch of the phylogenetic history of man is given to set forth the view that his evolution is an evolution of mastery—of successive types of imposition of his ego upon the non-ego. Thus a connection is established between different so-called non-æsthetic activities and between those activities and art; and the æsthetic emotion is provided with a place in a long series of successively more complex emotional reactions having as their common core the satisfaction resulting from the free functioning of the impulse to mastery. The differentia of the emotional response to beauty as manifested in art is obtained from a consideration of the primacy of the law of rhythm in the psycho-physical organism and from an analysis of the principle of the arhythmic. Rhythm, the typical structure of reflexes, favors maximum ease and facility of performance, but likewise induces unconsciousness. Arhythmical types of experience favor maximum awareness of response and correspondingly maximum illusion of power, but also a minimum degree of rapidity and ease. Art—which is first differentiated broadly from the bare perceptual on the one hand and from the bare conceptual on the other, in its union of the perceptual and conceptual—is then shown to be further characterized by its peculiar and intimate blending of the two antagonistic principles of the rhythmical and the non-rhythmical. The compromise it effects between the two is shown to be a demonstration of the theory which the paper is designed to establish; and that theory is further considered, briefly in its office of solving certain of the typical and more complex of the problems of æsthetics.

**Early Free-Thinking Societies in America.** I. WOODBRIDGE RILEY.

The rise and fall of early free-thinking societies in America offer a picture of considerable interest. The background is that of eighteenth-century deism—with the neutral tints of unbelief; the shadows by the dark forces of reaction. Across this canvas march many figures—rationalists like Franklin, ardent innovators like Jefferson, and a host of lesser figures—Frenchmen like Genet and his Jacobins, Anglo-

Americans like Thomas Paine and George Houston, plain Americans like Elihu Palmer with his *Principles of Nature;* radical English reformers like Robert Owen with his *Declaration of Mental Independence,* and ever opposing this army of free thinkers, the conservative elements—heads of colleges, leaders of the bar, and, as particular defenders of the faith, the clergy of New England.

The general histories of liberal thought fail to do justice to this subject. They have traced the influence of prominent thinkers like Paine from the founding of the Theophilanthropical Society to the time of Lincoln's early political career. They have described the men but not the means for the spread of free thinking. First came the French Jacobin societies connected with the Grand Orient of Paris and spread through the excitement due to the 'French craze.' These societies were speedily attacked in a series of 'scarehead' discourses such as the Rev. Joseph Lathrop's *A Sermon on the Dangers of the Times from Infidelity and Immorality and Especially from a Lately Discovered Conspiracy against Religion and Government.* When "the warhoop of the pulpit" died down there, other free-thinking societies arose. These were not of Gallic but British type. The earliest was the Deistical Society of the State of New York which opposed "all schemes of superstition and fanaticism claiming divine origin." Its organ was the *New York Theophilanthropist*—the name being given as "less frightful to fanatics." This was succeeded by *The Correspondent,* "the first periodical ever published in the United States that publicly avows and defends Deism." In connection with this journal, the Free Press Association lectured against the absurdities of the Bible; and the Philosophical Library published radical works for which its editor, George Houston, had been imprisoned in England. From these organizations a host of free-thinking journals and societies arose, from the *Herald of Heresy* and the *Spiritual Mustard Pot,* to the Baltimore Association of Liberals and the Cincinnati Society for Mutual Instruction.

Next Robert Owen stirred up the west. In his New Harmony Settlement, he attacked Puritanism and advocated a sort of positivistic communism with eugenic by-laws. Attacks on the conventional family and morality were followed by the activities of Owen's sons and the female republican "Fanny Wright." Their party—the Free Enquirers—became discredited by mixing in politics and advocating a radical platform dubbed the "Infidel Ticket."

Further political complications arose with the anti-Masonic agitation of the 30's. The Old English Free Masonry was charged with

being penetrated by French Illuminism. 1830, then, marked the beginning of the end of early free-thinking societies in America. Originally attacked because of their so-called atheistic tendencies, their secrecy was their final undoing, and their possible value as vehicles of rationalism disappeared in foolish mummery. From this time on the liberal-minded turned to New England Transcendentalism or French Eclecticism of the type of Cousin.

**The Empirical Correlation of Mental and Bodily Phenomena.** Grace A. de Laguna.

Even though we do not regard the phenomena of mind and body as belonging to distinct ontological orders, the problem of their empirical correlation is of prime importance. The familiar alternatives are: (1) the *de facto* correlation is complete; (2) the *de facto* correlation is incomplete—certain mental phenomena, particularly those involving valuation and meaning, have no corresponding neuroses. The purpose of this paper is to show that these alternatives are not really so exhaustive as they formally appear, and that neither adequately represents the empirical facts.

The first alternative is ambiguous, and has received various interpretations. The classic interpretation is that expressed by the term 'psycho-*physical* parallelism.' It assumes that mental phenomena are correlated with definite mechanical or chemical processes occurring in the nervous system. (*Cf.* Tyndall's suggestion of possible correspondence between a left-handed spiral motion of brain molecules and the emotion of love.) This creates the paradox of parallelism: Two sets of phenomena, individuated and classified by utterly disparate principles, yet exhibit an intimate and universal correspondence. The problem as thus stated is evidently insoluble. The condition for the solution of the problem of mind-body relation would seem to be the exhibition of the two sets of phenomena as individuated and classified by the same set of principles.

A second interpretation of the correlation-hypothesis may be distinguished by the term 'psycho-*physiological* parallelism.' This supposes that a definite psychological phenomenon is always conditioned by a definite physiological activity, *i. e.*, the excitation of the same nervous elements, either sensory, central, or motor. Theoretically the interpretation offers no decisive advantage over psycho-physical parallelism, since it presents a like ultimate mystery.

An examination of the empirical evidence available in specific cases of emotion and perception indicates that the bodily changes correlated with these phenomena are not describable in terms of physiological

*process*, but in terms of behavioristic *function*. The central nervous system is not primarily a physiological organ. Its distinctive function is the regulation of the behavior of the individual in relation to his environment; and it is with its activities analyzed and classified with reference to the performance of this function that mental phenomena are empirically correlated. Different manifestations of an emotion, *e. g.*, fear, are not classed together because of any physiological identity; indeed no definite set of identical physiological processes is discoverable. The common factor is identity of function. Psychologically the correlated experiences are classed together as 'fear' by means of the same principle. Similarly in perception. The experiencing of the 'same' perception on different occasions is not, so far as we can discover, conditioned by the excitation of identical nervous pathways, but by community of function in adjusting the individual to his environment. As psychological phenomena, perceptions, like emotions, can be classified and analyzed only by reference to the same community of function. As purely inner processes, the exclusive possession of individuals, they remain beyond the reach of scientific identification and description, and become mere unknowables.

**An Approach to the Mind-Body Problem.** R. W. SELLARS.

(The paper appears in full in this number of the REVIEW).

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# REVIEWS OF BOOKS.

*Morale kantienne et morale humaine.* Par F. SARTIAUX. Paris, Hachette et Cie, 1917.—pp. vii, 463.

One of the deplorable accompaniments of the war is the perversion of perspective and the "Umwertung aller Werte" to which intense feeling has given rise even in the field of philosophical criticism. The Germans began by depreciating the achievements of English and French thinkers and glorifying their own philosophies as the most profound and noble expressions of the human soul. M. Félix Sartiaux pays them back, in part, in their own coin by weighing in the balance their greatest philosopher and finding him rather light in mental and moral weight. He repudiates "the intolerable and odious pretensions" of the Germans to be a great creative people, the educator of the human race, and declares that far from being initiators, they have nearly always been mere imitators, in philosophy as everywhere else. He thinks that the day will come when it will be clearly understood how superficial has been the influence of German metaphysics and particularly of the Kantian system, how its value has been exaggerated and what a modest rôle German thought has played in the history of general ideas. He feels that it is about time to put an end to the German intellectual propaganda which the French admiration for Kant has promoted, and to put the so-called sage of Königsberg in his proper place. That Kant's ethics should have won such success in France is to him a singular fact, and he proposes to show how utterly repugnant this confused and ambiguous system really is to the French spirit, wholly lacking as it is in generous and æsthetic elements and in the true appreciation of individuality, liberty, and humanity. It is true that Kant condemned falsehood, the violation of treaties, useless cruelty, the employment of treacherous methods in war, and the spirit of conquest and domination; but he deserves no special praise for that: these ideas formed part of the atmosphere of the eighteenth century. It is likewise true that Kant has condemned in advance the errors and pretensions into which an extreme self-confidence, a measureless pride, and the absence of a real civilization have carried Prussian Germany; but these judgments did not spring from the innermost principle of the Kantian ethics and are artificial additions to its thought. There is no relation between his principles and their applications. Although

the principles are represented as purely rational, they are the affirmations of a mysticism which withdraws itself from the control of reason, while the applications are partly an apologia of liberal French ideas, partly a plaidoyer for Prussian absolutism. The *Philosophy of Law* and the treatise on *Perpetual Peace* have been largely derived from French sources and do not really form part and parcel of the Kantian philosophy. All this would have become perfectly clear, in the opinion of M. Sartiaux, if scholars had made an effort to discover the psychological and historical origins of Kantian ethics and had been able to distinguish in it the subjective elements and the contributions of the moralists and jurists from which it borrowed.

M. Sartiaux emphasizes as a fact that Kant's training was exclusively religious and metaphysical, representing a combination of Protestant Pietism and Wolffian rationalism. He was not a *savant*, not a scientist either in spirit or in achievement; neither a mathematician nor a physicist nor a geologist nor a naturalist nor an economist nor a jurist nor an historian. Psychology was a closed book to him. It was metaphysics—his own metaphysics—that formed the center of his perspective. He speculates upon abstract notions whose meaning is not definitely determined and unfolds in logical form the relations in which they seem to stand. Revealing the attitude common to the religious soul and especially to Lutheran Pietism, he proceeds from unprovable assertions and in absolutistic fashion opposes them to one another. Knowledge is for him an ensemble of *apriori* and universal forms, united by necessary judgments, which the mind shut up in itself, as Kant in his own life, lays down in its seeming autonomy, which owe nothing whatever to experience, and which are applied to the external data without being able to interpenetrate them. The categorical imperative plays the same rôle with regard to moral ideas and the sentiments; under the guise of a subtle logic, the ethical system introduces the basal notions of Lutheran Protestantism. Then Kant constructs with pure entities of the mind and in the form of logical reasonings the world of physics and the world of morality, "a system of knowledge wholly grounded *apriori* upon pure concepts,"—an enterprise which is chimerical, it being impossible to deduce the entire reality, physical and moral, from a few abstract principles.

The *Metaphysics of Virtue* and the *Philosophy of Law* are nothing more than an amalgamation of the conceptions which divided German society in the last half of the eighteenth century: the moral ideas of Lutheran Christianism, the political ideas of enlightened despotism, and the moral-political ideas of French liberal philosophy. The

fundamental ideas of the Kantian ethics are at variance with all previous ethical thought. Kant aimed to be the Copernicus of ethics, pretending that its principles and true significance had been totally misunderstood by his predecessors. His system reverses the order in which philosophy and religion had conceived the relations of goodness and duty, of man and the world, of the world and God. It withdraws goodness and duty from the field of investigation, and makes the good will absolute. It breaks the intimate connection which moral, religious, and rational thought has always established between virtue and happiness. It stands isolated in the tradition of humanity; Kantism and humanism are irreconcilable opposites. To understand this morality completely, there is need of a penetrating psychological and social study of Kant, of his character and his life, the materials for which are at hand but have not been sufficiently utilized. After giving us a critical exposition of Kant's practical philosophy (pp. 25–238) and showing in detail its relation to other systems,—its place in history (pp. 241–355)—M. Sartiaux presents us with the results of such a study in a long final chapter, "Kant and Prussian Mentality" (pp. 356–433), in which this philosophy stands revealed as a finished type of Prussian morality, "a well-authenticated product of the soil and of the nation in which it was developed."

The book is not an impartial and objective study of Kant but a passionate attack upon his intelligence and his learning, upon his fitness and training to be a teacher of mankind; indeed, even his character is mercilessly analyzed and condemned, and his seemingly harmless idiosyncrasies and habits held up to public ridicule and scorn. M. Sartiaux performs his work of destruction with such zeal and thoroughness that the fair-minded reader cannot help but feel sorry for the dethroned philosophical monarch who had the misfortune to be born a Prussian. And yet the book deserves serious attention in those parts in which the author claims to have a better understanding of the subject than the many interpreters of the critical philosophy who have preceded him. Though the spirit of his work is violently antagonistic and at times abusive, it gives evidence of more than a superficial examination of Kant's writings; it presents reasons for its conclusions, and reasons, whether the result of love or hate, must be reckoned with. Indignation sometimes writes verses, and it is not impossible that indignation may detect what a less ruffled temper ignores. However that may be, I have found the critical and historical parts of the book interesting, refreshing, and suggestive; in spite of its unsympathetic and hostile tone, I appreciate the force of

many of the writer's criticisms, although it seems plain to me that he does not do Kant full justice. One feels impelled in studying the volume to go over the ground again in the hope of reaching a deeper and clearer understanding than before of Kant's practical philosophy; and an author who can arouse a new interest in an old task has not labored altogether in vain. Indeed, it will be necessary, in view of our war experiences, to reëxamine much of the ethical literature not only of the German people but of other peoples. Ethical and political principles must stand the test of experience, and we do not come to a full understanding and appreciation of our values until they are tried by fire, honored in the breach as well as in the observance. History must be constantly re-written in the light of great new events—the history of thought no less than social and political history. And I wonder, in view of all that has happened within the last few years, whether Kant's practical philosophy will cut such a sorry figure as it does in M. Sartiaux's mind. It does not seem possible that a thinker who declared that nothing in this world is absolutely good except the good will, and who, after all, defined the good will as the will to bring about a social order of rational beings, a kingdom of ends, in which no one should be treated as a mere means but always as an end, can be interpreted as countenancing the flagrant breach of treaties, the violation of international morality, and the relapse into barbarism of which the country of his birth stands condemned. Whatever may be the logical and psychological defects of Kant's ethical system—and they are many—and however short Kant himself may at times have fallen of his ideal (he did not believe that sainthood could be attained in this world), he certainly never intended his categorical imperative to serve as a cloak for immoralism of the Prussian or any other type. Our author portrays him as "*un vieux garçon prussien*, as an egoist, full of himself, anti-social and anti-æsthetic, devoid of generosity and real moral distinction." "One does not find in his life a single trait of devotion or generosity. He never consecrated himself to a person or a cause." He prudently abstained from discussing questions of the internal and external politics of his day. "He showed no interest in his family nor did he lend material aid to any of his pupils or disciples; we know the kind of reception he gave to Fichte, the greatest of these." "He had the taste for 'corporalism' and blind authority of which the categorical imperative is a magnificent and absurd expression. Like every good Prussian he possessed the fear and absolute respect which the august force of established power inspires." "He was exceedingly timorous, circumspect to the point of sacrificing what

appeared to be his strongest convictions to his tranquillity of mind." He could not brook intellectual opposition; he obstinately refused to enter into the ideas of other thinkers; indeed he was incapable of understanding philosophical thoughts other than his own. But even granting the faithfulness of this unattractive picture, can we say that it is a typically Prussian picture, and, what is more important, that it represents Kant's ideal of the perfect life? The question in which we are interested is not how did Kant live his life, but how did he think it ought to be lived? His failure to realize his ethical philosophy in practice is something which we mortals have no difficulty in understanding; it is not, however, to be taken as an indication of what he actually believed and taught.

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*Leibniz.* (Les Grands Philosophes.) Par Clodius Piat. Paris, Félix Alcan, 1915.—pp. vii, 375.

The Abbé Piat, who has already contributed volumes on Socrates, Plato, and Aristotle to the *Grands Philosophes* series, of which he is the editor, is not unmindful of the fact that some persons will regard the publication of his book on Leibniz as inopportune, indeed as premature. They will, he thinks, wonder why he did not await the appearance of the great edition of Leibniz's works in preparation by the Academies of Paris and Berlin, without which perfect certitude concerning the views of this philosopher is presumed to be out of the question. However that may be, he is right in believing that students of the history of philosophy will not blame him for not delaying his own book until the publication of "*la grande édition*," which could not have been completed, under ordinary circumstances, in less than twenty-five years, and the coming of which may now be postponed indefinitely. It is more than likely that Dr. Piat's able and interesting work will prove of service even after the mass of manuscripts upon which eager scholars busied themselves before the war have been subjected to further scrutiny. It is possible, of course, that documents may be unearthed which will utterly transform our ideas of Leibniz's philosophical teachings, but the chances are against it. From what we already know of his unpublished writings it seems that once he had formulated his theories he did not materially change them, and that he never abandoned the leading thoughts of his philosophy as they had been developed, let us say by the year 1675. (See Dr. Willy Kabitz, *Die Philosophie des jungen Leibniz*, 1909, and Professor Ivan Iagodinski, *Leibnitziana elementa philosophiæ arcanæ de summa*

*rerum*, 1913.) This view Dr. Piat holds and helps to corroborate throughout his book by a wealth of references.

The book is divided into eight chapters, discussing in turn the most important elements in the Leibnizian philosophy: Leibniz's Aim; The Leading Principles; The Art of Invention; The Sciences; Matter and Thought; The Life of the Souls; The City of God; Leibniz's Contribution to Eternal Philosophy. The author not only offers clear and comprehensive expositions of the different parts of the system, expositions which are based upon a careful and extensive study of the sources thus far available; he endeavors to trace the teachings to their origins, points out the difficulties and ambiguities which they present, and gives his estimate of their worth from the standpoint of his own philosophical creed. However the reader may differ from Dr. Piat in his interpretations and criticisms, he will, I believe, find this excellent work both helpful in his efforts to understand a great thinker and stimulating to his thought upon fundamental problems.

Like so many philosophers preceding and following him, Leibniz was inspired by a great ethical ideal: his goal was nothing less than to re-unite mankind into one single family having the same science, the same religion, and the same language. This Renaissance ideal, Dr. Piat declares, became the guiding star of the thinker's long and prodigious activity; and the object of the new Leibniz volume is to show how and to what extent he accomplished the varied tasks that seemed necessary to the realization of his dream. The aim and the method were alike rationalistic: to establish the universal intelligibility of things by means of the great principles of reason, the principle of contradiction and the principle of sufficient reason. Yet not everything is governed by geometrical reason, as it were; in the field of fact or contingent truth, things ultimately depend on the principle of perfection and order, the laws of nature being the result of the choice and the wisdom of God. Final causes are therefore useful not only to virtue and piety in ethics and natural theology, but still more in physics and particularly in biology, where they may lead to invention and to the discovery of new truths. That is, we cannot understand the world unless we view it also from the standpoint of goodness and beauty; God's necessary purpose in creating it was to produce the best of all possible worlds, and from this purpose follow a number of important principles: the principle of economy, the principle of continuity, the principle of indiscernibles. Leibniz's rationalism would therefore seem to include, in addition to logical necessity, the teleological conception of ethical and æsthetic value. Dr. Piat is struck with the

robust and virginal faith which Leibniz professes toward reason: "He possesses both 'the spirit of finesse' and 'the geometrical spirit,' happier than Descartes and Spinoza who had little but the latter and who understood almost nothing of the infinite and delicate complexity of things." He is also impressed with the æsthetic character of his doctrine. "He represents in particular a happy union of the Western spirit and the Greek spirit. His work has the boldness and the power of our Gothic cathedrals, but at the same time it recalls the wholly rational grace of the Parthenon." Nevertheless, in his discussion of the Leibnizian logic, which is an art of invention rather than an art of demonstration, Dr. Piat finds that "Leibniz has granted too much to the geometrical spirit and too little to the spirit of 'finesse,' whose value, however, he appreciated. It may be said that he did not sufficiently guard against the premature boldness of the Renaissance nor against the influence of the decadent scholasticism of his time, although he was not sparing in his criticisms of 'ce fatras d'inutilités' with which he did not wish the youth to be burdened. Seen from this aspect, Leibniz is still 'a man of the sixteenth century.'"

Dr. Piat holds that Leibniz had two philosophies; of one of them he spoke to every comer, the other he sometimes formulated in certain writings but did not disclose to any one. In the *New Essays*, the *Theodicy*, and the *Monadology* we find the doctrine of the good God who is sovereignly free and made the world from love of the best. In certain other treatises[1] we find the complete affirmation of all the Spinozistic principles. This conflict of opinion is explained by our author as diplomacy on the philosopher's part (p. 354). In his published writings he never discarded the ideas which he had developed before the appearance of Spinoza's *Ethics*; indeed, he continued to present them without even suppressing the equivocations which they contained. In some of the numerous summaries of his monadism he frankly declares himself in favor of universal determinism, as frankly as does Spinoza; but into whatever form he translates his thought it always remains the same. For the *moral* necessity to which he so frequently refers is in the last analysis nothing but a softened form of *absolute* necessity. This fact becomes apparent when we take the trouble to remove the diplomatic verbal shell. There is, in other words, no new Leibniz to discover. What the unpublished writings can still clear up is certain traits of the life and character of the man and his intimate manner of working (pp. 291–2). His determinism, ever present though unavowed, has deeper points of contact than those

[1] See pp. 257 ff.

which belong to his theory of will. His philosophy since the appearance of the *Ethics* was completely impregnated with the leading ideas contained in that book. "In spite of the orthodoxy of his formulas, Leibniz remained to the end a prisoner of the genius of the Hague" (p. 258).

I do not think that Dr. Piat's conclusions are inevitable, even upon the basis of his own exposition of the Leibnizian philosophy. In the light of Leibniz's refusal to surrender the hegemony to 'the geometric reason' and of his emphasis upon teleological and ethical categories as essential to a rational understanding of things, the uncharitable judgment which our author pronounces upon the thinker who labored all his life long to overcome the opposition between mechanism and teleology, determinism and freedom, seems unjust. In nearly every field he sought to reconcile the contending parties, and he suffers the common fate of the peace-maker at the hands of his critic. He regarded as untenable Spinoza's theory of absolute determinism: to interpret nature we must have recourse to final causes; behind nature stands 'the law of the best.' The cosmic process depends upon the choice and wisdom of God; he willed the best of all possible worlds; having willed such a world, it could not be otherwise than it is. "*Metaphysically* speaking, he could have chosen or made what was not the best; but morally speaking, he could not have done so." He is actuated by the love of the good. "The good, and even the best, *inclines* him to act; but it does not *necessitate* him, for his choice does not render impossible that which is contrary to the best. . . . There is therefore in God liberty, free not only from constraint but even from necessity. I mean from metaphysical necessity, for it is a moral necessity that the sage is obliged to choose the best" (*Theodicée*, 230). "The decrees of God are always free, although God is always led to them by reasons which consist in the view of the good: for to be necessitated morally by wisdom, to be obliged by the consideration of the good, is to be free, is not to be necessitated metaphysically. And metaphysical necessity alone, as we have remarked many times, is opposed to liberty" (*ib.*, 236). Leibniz is here trying to show that the willing of a rational personal being, motivated as it is by the love of the good, is something quite different from the action of the Spinozistic God. Dr. Piat himself seems to see this in his interpretation of Leibniz's theory of the will: "God is not a brutal force which manifests itself in an infinite number of infinite attributes, as Spinoza imagined; he is a personal being. Now the perfection of the personal being does not consist in undergoing mechanically the action of the best. It con-

tains something more spontaneous, and for that very reason nobler: it is the free and indefectible love of the good" (p. 271). Leibniz seeks to make his meaning clear in many ways; thus, in the *Theodicy* he says: "To say *that one cannot do a thing only because one does not will to do it*, is to do violence to the meaning of the terms. The sage wills only the good: is it servitude when the will acts according to wisdom? And can one be less a slave than when one acts from one's own choice, following the most perfect reason? . . . Slavery comes from without, it leads to what displeases, and above all to what displeases with reason: the force of others and our own passions make us slaves. God is never moved by anything outside of himself, no more is he subject to inner passions, and he is never led to anything which could displease him" (*Theodicée*, 228). In the same way Leibniz refuses to accept a mechanical kind of determinism for the human will. He rejects the freedom of indifference, it is true: the will, he sees, has its motives; it would not be intelligible if this were not so. But the will cannot be *necessitated* although it can be *inclined*; "the free will is a spontaneity that knows itself, *spontaneitas intelligentis*." Leibniz's theory of the will may be untenable; it may be inconsistent with much else that the philosopher taught; and interpreters of his doctrine may choose to label it determinism; but it is a different kind of determinism from that which he combats. At any rate, it is possible to understand him without accusing him of hypocrisy and diplomacy.

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*An Introduction to Social Psychology.* By Charles A. Ellwood. D. Appleton and Company, New York, 1917.—pp. xii, 343.

Professor Ellwood states in his preface that this book is "a simplification and systematization of the theories presented" in his *Sociology in its Scientific Aspects*. Those who are familiar with his writings will recall that his point of view is that of the functional psychology of Angell. He is definitely opposed to behaviorism, and has no fear of the concept of consciousness. Mechanism in his opinion has yet to demonstrate its validity for psychic and social processes: "we cannot understand such a thing as value apart from consciousness." A society he would define, not in any purely objective terms, but as "any group of individuals who carry on a common life by means of mental interaction." "Sympathetic introspection" is to him, "after deduction from ascertained laws and principles of psychology, probably our chief instrument at the present time for the psychological

analysis of existing social life." Professor Ellwood's conception of the function of consciousness is the orthodox functional one that consciousness secures the adaptation of behavior at times of change.

The fundamental topics with which the book deals from this conservative point of view are the problems of social unity, of social continuity, of normal or gradual social change and of abnormal or sudden social change. The author prefaces his discussion of these themes with a chapter on Organic and Social Evolution and one on Human Nature and Human Society. In the former, after considering the biological factors that have led to the forms of animal association, he points out that the intellect is the distinctively human element in human social life. In the latter, he first rejects as inadequate or false the passive, hedonistic, egoistic and individualistic theories of human nature in favor of that which regards the individual as "a self-active unit, fashioned by the forces of an organic evolution which has been at the same time a social evolution"; and then treats of the rôles of instinct, habit, feeling and intellect, in human society. Instincts are the primary forces in the social life; habit is the basis of all the higher forms of social organization; feeling represents the individualistic element; intellect is concerned with adaptation and change.

Social unity is discussed in two chapters. The factors which affect it are grouped under seven heads: external environment, biological conditions, instincts, habits, feelings, ideas, and institutions of social control. The chapter on social continuity considers the functions of heredity, the continuity of physical environment, custom, and social tradition in securing the permanency of social organizations, and treats briefly of the causes of social stagnation and social assimilation. In the chapter on "Social Change Under Normal Conditions," unconscious changes, produced by the processes of organic evolution, alterations of environment, unconscious failures to imitate exactly, are distinguished from conscious changes, whose mechanism rests fundamentally on free public discussion. Whenever anything interferes with such free developments of public opinion, we have the conditions for revolution, or sudden social change; a process which involves great waste, because when the acquired habits and standards of society are broken down, there is nothing but animal instinct to fall back upon, and society tends to drop to the animal level.

The remainder of the book is occupied with the relations of instinct to intelligence in social life, the rôle of imitation, suggestion, and sympathy, and with the topics of "Social Order," "Social Progress," and "The Nature of Society." The system of ethics advocated takes as

its ideal "not a perfect individual, but a perfect society consisting of all humanity." The author's ideal of social progress he calls the sociological ideal: it considers all kinds of conditions, physical and geographical, biological, economic, and the psychological influences of ideas and standards. And his conception of society he terms psychological, in accordance with "modern psychology," which "takes fully into account not only the strictly psychic elements in human behavior, but also biological conditions and forces."

There is little to criticise in the book, measured by the tasks which it delimits for itself. We have thus far had only one work on social psychology written by a psychologist; namely, McDougall's. Professor Ellwood is himself, of course, primarily a sociologist, but it is to the credit of his book that the psychologist can be on the whole so well satisfied with it. In reading Ross, for example, one is again and again irritated at being led straight up to a real psychological problem, only to watch the author dodge it and make his escape by a by-path. Occasionally Professor Ellwood disappoints us in a similar way. For instance, in tracing the origin of revolutions, he explains the reversions of civilization to lower levels as due to the decay of the ideal standards and controls, but he does not suggest to us what causes such decay: Patrick's 'fatigue' theory, which he rejects as not in accord with the facts of history, is at least a psychological theory. Again, where the influence of leaders is invoked as an explanation of social changes, one wants to know what is influencing the leaders. When in discussing sex differences the author says, "Connected with the primary and secondary physical differences between the sexes are, undoubtedly, certain differences in their native reactions. All experiments made upon the original tendencies of man indicate that this is the case," the reviewer is puzzled to know where the experimental literature thus referred to may be found.

The chief addition which the thought of the present reviewer would make to Professor Ellwood's analysis concerns the function of the intellect in social evolution. As the author points out, human social organization differs from that of the lower animals by the presence of the intellectual factor. But he writes as if that which the intellect accomplishes for human society were summed up in what may be called the tools of social organization; abstractions, means of communication, education, modes of governmental control. The reviewer has tried elsewhere[1] to emphasize the truth that the great intellectual

[1] "The Social Psychology of Man and the Lower Animals." *Essays in Honor of E. B. Titchener.*

influence which has transformed animal into human society is that function of imagination which may be called ejective consciousness, the ability not merely to feel for others, or to feel as we think others feel, but to feel with accurate insight as others really do feel. The transformation occurs on a far deeper level than that of the adaptation of means to ends, or even that of the construction of general principles through the power of abstraction.

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*Community: A Sociological Study.* R. M. McIver. Macmillan and Co., London, 1917.—pp. xv, 437.

Dr. McIver's book is a philosophical refreshment. It is a long refreshment, but a refreshment nevertheless. To be sure, there are elements which a sociologist would doubtless like to have seen added to the feast and which would not have been without benefit to the philosopher: a more evident hospitality to inductive researches in social organization and experiment, particularly to that most significant type of modern social research, the social survey; a more constant sense of the phylogenetic aspects of social life; a keener feeling for the more recent developments in normal and abnormal psychology; a greater attention to economic influences. One has the feeling that Dr. McIver is a penetrating thinker who is unfortunately too exclusively a thinker. He has in him, in other words, a shade too much of the speculative bias of the neo-Hegelians whom he abominates, but with whom, apparently, he has lived overlong. But a feast is a feast; and in these days when meatless meals are rather the rule than otherwise in sociological ventures, so rich a diet is to be received with thankful acclaim.

Dr. McIver is strong where his strength will be most appreciated by the schools of philosophy and political science that are coming increasingly into favor. He disposes effectively of the long-regnant Hegelian view that the State is the limit of community and that all other associations are but elements of the State. Such a view, he shows, is contradicted not only by the whole evolution of the modern state, but by the obvious fact of associations of interests that overleap state boundaries. 'Community,' in short, is the larger order; the State is but a peculiarly authoritative association within it. "Community, therefore, and not the State, is the 'world the Spirit has made for itself.' 'The Spirit' does not isolate itself in States, as Hegel's account assumes. The growth of civilization means the growth of

ever-widening community, the 'realization' of social interests beyond the limits of politically independent groups. Society widens and a sense of community grows." Such a distinction between community and State is obviously of prime importance for a proper understanding of international relations, since upon the assumption of the identity of the two "we have no social unity among the nations until they are absorbed within a world state." The author points us away from the dangerous illusion of a monistic world state, holding us to a pluralism (federation) of political unities that is embosomed in the wider interrelationship of world community.

Again Dr. McIver falls in with the strong tendency of modern philosophical and political thinking in his vigorous handling of certain social and political abstractions that have passed for statements of fact. The chief and captain of them, that society is more than its members, he shows to be nothing less than a revival of the Middle Age realistic notion that the type exists by itself. Again, the abstraction is reached by a subtle process of hypostatizing relations. We come to think of social relations as literally *ties*—somehow outside the beings they bind together—and of 'society' therefore as that which is persons plus relations. As a matter of fact "the ties exist *in* the personality of each and there alone." Closely allied to this society-greater-than-the-sum-of-its-members abstraction is the organic abstraction. It is "an analogy," says Dr. McIver, "which has wrought harm not only in the study of general sociology, but in ethics, politics, psychology and economics as well." He proceeds to dispose of the analogy with a frank directness that is refreshing when one remembers how sociologists and social philosophers, awed by the looming shadows of past worthies, have stuttered and stumbled in their effort to adjust themselves to its claims. "There is one essential difference between a community and an organism which destroys all real analogy. An organism is or has—according as we interpret it—a single center, a unity, a life, a purpose or consciousness which is no purpose or consciousness of the several parts but only of the whole. A community consists of a myriad centers of life and consciousness, of true autonomous individuals who are merged in no such corporate unity, whose purposes are lost in no such corporate purpose."

Proceeding, he disposes of the mischievous abstraction of the 'social mind.' 'Community' is no greater mind, but is created by that activity of men's minds in which they relate themselves incessantly to one another. "Shall we ever," he sighs, "learn to study society directly in itself and not in the distorting mirror of analogy?"

The difficulty, of course, is that these abstractions based on false analogy lead to utterly false antitheses between the individual and society, which in their turn lead to needless and to false efforts at reconciliation. When we cast aside the abstractions and look at the social facts, we discover a law which is the "key to the whole process of social development," the law, namely, that "socialization and individualization are the two sides of a single process."

It is impossible in brief space to discuss the very careful and illuminating exposition of personality in its individual and social aspects which is the subject matter of Chapter III. The philosopher will find here matter worth while.

Apart from the Introduction, which is concerned with general matters of definition and demarcation of the sociological task, the book is divided into two parts: (1) An Analysis of Community; and (2) Primary Laws of the Development of Community. The first part is concerned in the main with the dissipation of fallacies and with the distinction between and correlation of community, associations and institutions. The second part is interesting to the philosopher, particularly for its penetrating discussion of the criteria of social development. "Evolutionary science," says the author, "is concerned not with the history of the world but with the history of selected elements of the world. Take away the idea of development, leave only the idea of process, and evolutionary science would become a mere reflection of the myriad inchoate contradictory processes of nature." What then, he asks, shall we call the *development* of community? Examining various criteria more or less widely supported (complexity, differentiation of structure, etc.), he rejects them. "We are thus driven from structure to life in our search for criteria of development. Differentiation that furthers life is development." But what does it mean to further life? The answer must be, he answers, in terms of psychology. We omit here the interesting steps of the argument and give only the significant conclusion: "Our concern is with the directly social criteria; and of these the most important discoverable by the application of these [psychological] methods are perhaps the following: the power to understand and estimate the claims of others in comparison with our own; the power to enter into more and more complex relations, the autonomy attained by the individual in these relations with his fellows, and his sense of responsibility towards others within these relations. These are all qualities entirely absent in the earliest stages and activities of conscious life, and slowly acquired in some degree by all educable beings. They are

the social qualities first diminished under the influence of organic or psychical influences which totally derange organic and psychical life. They are also the social qualities which seem to suffer most when old age mocks at maturity and declines to second childhood. For all these reasons we seem justified in regarding them as criteria of the general development of the social life of each."

As excellent as anything in the book is the fine understanding of the problem and scope of ethics. "It is a false view of ethics which limits its interest to a few social questions specially singled out as 'moral.' Every question of values is a moral question and every purpose of men is relative to a value. Ethical activity is thus peculiarly comprehensive. It is not a species of activity coördinate with economic or political or even religious activity. . . . It is not a specific type of activity at all, for it may be revealed in all the specific types. Ethical activity is wider in its range than any other, it is literally universal, revealed in every activity of life. In its pure form it is the most intimate and individualized and free of all activities, and it makes unending demands on every social organization."

The final chapters of the book are devoted to the statement and elaboration of what the author calls the second and third laws of communal development, viz., "the correlation of socialization and communal economy"; and "the correlation of socialization and control of environment." Into the intricate argumentation of these chapters we will not enter, except to refer to the philosophically fresh treatment of the processes of economic antagonism, competition and coöperation.

In conclusion, the reviewer cannot too highly recommend the book as a work of careful scholarship and penetrating thought. It belongs as truly in the field of philosophy as in the field of sociology and is an excellent example of the *rapprochment* which should be increasingly in evidence among the workers in these two fields.

H. A. Overstreet.

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*A Social Theory of Religious Education.* By George Albert Coe. New York, Charles Scribner's Sons, 1917.—pp. xiii, 361.

Conservative and laggard as educational institutions generally have been in the matter of reshaping their ideals, methods, and curricula, the traditionalism and inertia of those educational agencies which may be termed religious have nevertheless been conspicuous. Those only who are intimately familiar with the latter can adequately

appreciate the pressing need for a clear, thorough, and comprehensive presentation of the reforms necessary if religious education is to be permeated by the social consciousness and spirit of today and is to factor in the realization of that ideal of 'the kingdom of God' which has increasingly and ever more firmly won its way in modern thought. This need Professor Coe's volume meets, and unquestionably with distinct success.

The ideal espoused by Professor Coe does not center about the stimulation of 'good feelings,' but about the formation of proper social relationships. Its insistence is upon righteous modes of life no less than upon the inculcation of even such undeniably desirable attitudes as that of loyalty. Conversion in the traditional sense of certain creeds is regarded as indubitable evidence of defective aims and methods. Yet conversion of one sort is represented as imperative: the conversion of a "largely unjust" into a "wholly just" social order (p. 64).

The program offered is not a patchwork. It does not simply add new to already existing subjects or methods of study and teaching, or merely multiply the number of tasks and duties. It presents a fresh view of the entire field from the point of view of the requirements of a social interpretation of religion, or rather, to speak more accurately, of Christianity.[1] It advocates thoroughgoing and wide-reaching modifications affecting all the various agencies of education available to the Christian church.

The discussion is characterized by definiteness, frankness of criticism, and sanity of judgment; it is replete with such data and such suggestions of a thoroughly concrete and practical sort as can be expected only of one possessing the extensive first-hand experience of Professor Coe. Perhaps, however, those who read the book either at a few sittings or chapter by chapter at brief intervals, will find it somewhat diffuse. To such also the repetitions of thought, and even of expression, as well as the frequently recurring exposition of the social point of view, may prove somewhat wearisome. One may hazard the guess that these limitations, such as they may be, reflect the direct transference to the printed page of features desirable in the case of classroom expositions of a subject, in connection with which students manifest a pronounced tendency to lapse to a traditional, non-social standpoint. Professor Coe organizes his subject-matter into five parts as follows: "The Social Standpoint in Modern Education,"

[1] The propriety or advisability of identifying 'Christian' education, which the volume primarily discusses, with 'religious' education may be questioned.

"The Social Interpretation of Christianity Requires Social Reconstruction in Religious Education," "The Psychological Background of a Socialized Religious Education," "The Organization of a Socialized Religious Education," "Existing Tendencies in Christian Education viewed from the Social Standpoint." With this schematization of material it is almost inevitable that certain problems appear more than once. Professor Coe has, as he tells us (p. 10), striven for concreteness, and in this he has succeeded well; it may be doubted, however, whether there were necessary quite such sacrifices in its behalf as he has felt free to offer.

So far as the point of view and the general background of the discussion are concerned, or its psychological or philosophical aspects, the author neither makes nor implies a claim to originality. Society, it is throughout implied, is not an abstraction, nor is it a reality transcending the concrete relationships of individuals. Conversely, the individual attains to self-conscious personality only in and through the process by which social relationships are established, and he finds the meaning and reality of his life in the extension and purification of the relationships thus begun. Psychology and history alike point the way to that society which was once but a vision of Christianity's, but which now, wherever the spirit of the latter has attained to intelligent self-consciousness, has become a program. The ideal is an ethical democracy, or, in a phrase which Professor Coe accepts, a democracy of God. In his foreword (p. viii), as well as in later pages, the principle is described as "that of a divine-human industrial democracy." While, however, it is suggested at various times that industrial, and economic, democratization is necessarily included in the program for the realization of a democracy of God, it is nowhere shown that the former is the full equivalent of the latter. Moreover, one is at a loss to determine the precise significance of the description 'divine-human' or 'of God.' Just how this differs from simply 'human' or 'ethical' is never made clear. The term 'God' is frequently used in such a way as to imply a distinct personality. In the descriptions of duties and relationships, however, and in the statements as to proper aims of a socialized program of religious education, we discover as the *socii* none but humans. We are directed to find God by attending to "the things that the Father loves, that is, the persons who are the supreme objects of divine solicitude" (p. 73). Now, doubtless it is true even of a human individual that the best way of 'finding,' or at least of knowing, him is by attending to the things he loves. Professor Coe, however, would, I imagine, be the last to say that such attention is a full account of our

social relations or of our obligations toward any human individual. Why, then, does he not frankly recognize and face the fact that, if God exists as an individual, our relations and duties toward him can likewise not be defined simply in terms of the objects of the Father's love, that is, our fellow-humans? Sometimes the discussion implies that the latter are not so much the objects of the Father's love as, in their deepest nature, the very objectification or incarnation of God, so that love of them *is* love of God. In this event, the relations of men to men are not adequately characterized by the popular mind or by the misguided, non-social religious thought which, contrasting them with the sacred, terms them 'human.' They are 'divine-human.' And yet, one of a positivistic trend might ask, Why use the language necessitated by a false premise and point of view? If there are aspects of our relations with one another that have escaped the attention of the popular consciousness or the description of certain religious thinkers, why not simply correct and enlarge the conception 'human' instead of implicitly accepting the inadequate, if not false, conception such as occurs when the relationships of man to man are termed 'divine-human'? That some of those who are championing a social interpretation—for they frequently seem to shy at the word 're-interpretation'—of Christianity—manifest a tendency to run with the hare and to hunt with the hounds is only too true. It is, therefore, all the more regrettable that a writer of Professor Coe's penetration and courage did not more thoroughly free his discussion from ambiguities connected with the terms 'God,' 'divine-human,' and 'human.'

As indicated, then, the author's theory and program of religious education are based upon "the idea of incarnation—that God makes himself known to us in concrete human life" (p. 113). The further limitations that suggest themselves in connection with the acceptance of this standpoint as sufficiently comprehensive are: (1) It does not give sufficient emphasis, at least in the exposition before us, to those various aspects of religion which Orientals refer to as 'the cultivation of the inner life,' which mystics have so one-sidedly yet so clearly recognized, which Eucken and other activists have done so much to reveal, and which many others have in mind when describing religion as a personal possession no less than as their own souls' aspiration. (2) It fails to appreciate that 'God is incarnate' in nature; hence it overlooks the educational possibilities inherent in the various sorts of attitudes and reactions—æsthetic and otherwise—toward the world of trees, clouds, lakes, rivers, mountains, and fields. (3) It neglects the fact that the religious consciousness is concerned with nothing less

than the ultimate fate of all those things which it regards as supremely significant, with the relation of existence to accepted values, with issues, therefore, that are truly cosmic.

Nevertheless, there can be no doubt that religion, whatever else it may be, is also social and that the social aspects of religious education have been as stupidly as they have been universally neglected. For bringing these into clear perspective, enforcing their claims upon procedure no less than theory, and richly supplying suggestions of a thoroughly constructive sort, the author of the present volume deserves the gratitude of all that growing number who are interested in the important tasks of religious education.

EDWARD L. SCHAUB.

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# NOTICES OF NEW BOOKS.

*On Causation, with a Chapter on Belief.* By CHARLES A. MERCIER. London, Longmans, Green, and Company, 1916.—pp. xii, 228.

This book is a product of militant common-sense; and common-sense, in logic as in fiction, has little use for the neutral grays of everyday life; it likes its villains to be real angels of darkness. The fiend in human form who dominates this story is the logician. With a stupidity which quite achieves the level of malice, the logician since the days of Mill has involved every phase of causation in chaos and dark night, until in despair the author had to let in the light himself. The logician can hardly be expected to admit that this portrait is a true likeness, but if he is blessed with a sense of humor, he may be content to leave his revenge to nemesis. Perhaps he will be satisfied when he finds the light-bringer deriving cause from the fact that we cannot imagine a change to be 'produced' without action upon the thing changed (p. 43). While he is struggling to set the bounds to what we can imagine, the logician will perhaps be puzzled to imagine the difference between producing a change and causing one.

The strength of the book lies in the fact that the author conceives the problem of causation in the light of a rather definite situation. As a physician he has been keenly conscious of the ambiguity of such phrases as 'causes of death,' 'causes of insanity,' and the serious practical difficulties which the physician faces in reporting upon such 'causes' or in testifying before the courts in cases involving criminal or other responsibility. The value of the book, both to the physician and the logician, would have been enhanced if the chapter on "Causes of Death, Causes of Insanity" had been made more explicitly the center of the discussion rather than a corollary to a theory of causation which professes to be universal. The author does not perceive that the difficulties which he finds in the logicians' treatment of cause arise in the main from their effort to discuss this concept as if it had a single meaning applicable to all situations. The fact is that the uses of causation are so various that any single definition is sure to result in confusion somewhere.

The main device which the author uses to clarify 'cause' is a sharpening of the distinctions between such terms as effect and result, agent, cause, condition, and reason. Of these distinctions the one which he uses most is that between condition as a passive state and cause as an activity. Unfortunately the distinction between activity and passivity is not clearer than that which he intends to clarify by it. He says, for example, that it would be inaccurate to say that the earth causes a stone to fall, but perfectly accurate to say that an action of the earth (its power of attraction) causes the stone to fall (p. 56). The earth is an agent and gravity is an action, though the distance between the earth and the stone is a passive state (p. 57). But surely, of the three factors which

the physicist would distinguish here, time, distance, and mass, it is purely arbitrary to say that one is more active or more passive than another. And where is the appropriateness of calling the earth's attraction (which is really nothing but a name) an action? Are we to think of the earth as pulling the stone, like a man reeling in a fish? We know, of course, that anything which can intelligibly be called the pull of gravity is exactly the same (the distance between the earth and the stone being the same) whether the stone falls or not. In other words, it is a permanent condition and is perfectly passive so long as the stone is not released.

The truth is that whether any given factor is said to be active or passive depends mainly upon the purpose of the observer. Active and passive are categories primarily of human conduct, attitudes of body or mind in behavior, which are carried over into our interpretation of events not belonging to conduct. While it is doubtful whether there is anything like consistency in our usage, it appears in general that any factor is thought of as active when it is regarded as the changing or changeable factor in a complex of conditions and causes. Dr. Mercier considers it wrong to speak of occupation as a cause of disease, occupation being a passive condition and not an action. Does this mean more than that a physician commonly finds it impossible to change his patient's occupation, particularly since the patient does not usually come to the doctor until his occupation has done the damage? If a legislator were urging the passage of a bill requiring factories to install fans to carry away the dust from brass-polishing wheels, why should anyone object to saying that he wished to remove a cause of tuberculosis? Dr. Mercier fully recognizes that among the several causes of any event we can distinguish *the* cause only by reference to purpose. He might have noticed the same fact about the distinction between active and passive. If he had, he would have perceived that he must go still farther to find the means of clarifying cause and effect.

The most definitely useful chapter in the book is the restatement of the methods of determining causal relation. One may cheerfully admit that the writers of text-books on logic have been far too content to repeat Mill's canons, and moreover to repeat them as if they were descriptive of actual procedure instead of forms for testing validity, which is the way in which Mill seems mainly to have regarded them. Dr. Mercier's list of nine methods is suggestive, though it is formed on no very definite principle, includes much that has no more reference to cause than to other relations, and is certainly less novel than the author imagines. In point of theory, Dr. Mercier's list of methods suffers from the most serious defect of Mill's methods: He does not take account of the fact that any of the methods is only a way of choosing between the members of a disjunction and therefore has to assume that the disjunction is made before the method is applied. It is the vice of commonsense to suppose that nature presents itself with things and their actions duly labeled for our selection.

GEORGE H. SABINE.

THE UNIVERSITY OF MISSOURI.

*The Essentials of Philosophy.* By R. W. SELLARS. New York, The Macmillan Company, 1917.—pp. x, 301.

The possible approaches to philosophy are sufficiently numerous to welcome any brief and well-written statement of philosophical problems which may be placed in the beginner's hands. This volume of Professor Sellars on *The Essentials of Philosophy* introduces the student to philosophy by way of the well-worn, if tangled pathway of epistemological criticism and reflection. One starts with the common-sense view of the world, one sees the breakdown of natural realism, the rise of representative realism, of subjectivism (miscalled idealism) and of scepticism. After twelve pages devoted to Kant, the author devotes the bulk of the book to an exposition of critical realism, and its application to some of the more important issues of epistemology and metaphysics, leading to three chapters on the problem of mind, and a final chapter on "The Place of Values."

The book is well written, moving straight along with clarity and brevity. To those who rely upon brief manuals, the book should make a distinct appeal. The present reviewer comes away from a perusal of the book with two reflections. First, his conviction is strengthened that our students should read continuously in the classics in philosophy rather than in *any* brief text-book. Secondly, he wonders whether, for the beginner or for the mature student, the 'essentials of philosophy' would not include more of such idea-systems as have influenced and do still influence men's judgments about politics, ethics and religion. This book, excellently well written as it is, seems to the reviewer a bit top-heavy in epistemology. But it may well secure a place for itself among the briefer introductions to philosophy which have come from the press in recent years.

GEORGE P. ADAMS.

THE UNIVERSITY OF CALIFORNIA.

*L'Éducation des Adolescents au XX^e^ Siècle*, III^e^ partie; Éducation morale: *le Respect Mutuel.* Par PIERRE DE COUBERTIN. F. Alcan, Paris, 1917.—pp. 104.

This brief discussion of moral education forms only a part of the author's treatment of the education of youth. He has previously published a similar volume on physical and another on mental education. Of the three this one is of greatest inherent as well as of greatest momentary interest. The burden of his argument is that, lacking a common and universal faith, and fearing the indifference and separatism of 'tolerance,' we must find a practical basis of unity somewhere between the two extremes. This basis is the idea of mutual respect. His chapters deal with the concrete application of the idea of mutual respect to the fields of religion, economics, politics, and domestic affairs. The final chapter is addressed to the task of training in loyalty or conscientiousness. The idea of mutual respect appears to be 'tolerance' in the narrow sense plus a feeling of human solidarity. This solidarity can be secured by an analysis which will show that the differences in religious belief, economic position,

*et cetera* are really superficial differences based upon a common faith or a common need. In the case of religious belief, for instance, the author believes that all faiths may unite in holding the primacy of hope—hope of personal survival and the survival of value—and all faiths are rooted in the contemplation of a common fate—death. In the chapter on the economic relations he applies the same method but with results only moderately convincing. In the first place he flatly rejects the economic interpretation of history and this rejection gives him his desired basis of unity, for it labels class war and class consciousness as a superficial expression of a fundamental unity. But it may well be doubted whether mutual respect has any practical bearing so long as there is unequal distribution of wealth, and consequently, of leisure and the intelligence which leisure makes possible. Respect for law and custom and for the judgment of the individual regarding his occupation, marriage, and opinion is also demanded as a fundamental need of all men. In order to secure the blessings of mutual respect moral responsibility must be aroused, directed and controlled. This is the task of moral education and may be accomplished by seeking common elements of solidarity. The author has faith in some sort of moral sense which will give the teacher a sure foundation for his work. Men raise up artificial barriers between themselves. Moral education must take these barriers down to reveal the common fund of hope, and need, and desire.

He who would quarrel with this aspiration must have a spirit unmoved by current events. The author seems to find an element in the notion of 'tolerance' which is not commonly associated with the meaning of the word. Otherwise he might have been contented with that word to express the substance of the social morality which he sets forth. The book deserves many readers and the present writer hopes that it will be translated and become well known in this country.

H. G. TOWNSEND.

SMITH COLLEGE.

*Mens Creatrix; an Essay.* By WILLIAM TEMPLE. London, Macmillan and Co., Limited, 1917.—pp. xiii, 367.

Mr. Temple is an orthodox churchman of philosophical training, a clergyman, an educator, a classicist, and a social reformer. He has set himself the task of defending the dogmas of the incarnation and the trinity by showing that the orthodox view is the hypothesis required to give completion and coherence to the ideals implied in the activities of "finite creative Mind."

Those activities he classifies into Knowledge, Art, Conduct, and Religion. Knowledge (which seems to include both science and philosophy) leads only to the conception of experience as "a world which is known and appreciated by the whole society of finite intelligences" (p. 85). The intellect cannot affirm the truth of the existence of an infinite mind holding that system together (p. 353), but could accept the hypothesis of the existence of such a mind if "other functions of mind" suggest it—*i. e.*, functions other than that of intellect (p. 90). Such other functions are Art, Conduct, and Religion.

Art—of which Tragedy is an essential element—"points forward to . . . some image truly adequate as an expression of the whole world's ruling principle" (p. 352); but Art itself does not furnish such an expression. Conduct aims at "the moral good" of "the life of love and the fellowship of which that love is the binding power" (p. 352); but no human conduct attains this good, apart from the ideal power furnished by the incarnation. "Every developed religion" is convinced of the existence of a "Divine creative Mind with which (man's creative Mind) may have communion" (p. 258). Religion then furnishes the possibility of the realization of the ideals of Knowledge, Art, and Conduct. But that possibility remains mere possibility until there is an adequate assurance of victory over the evil of the world, for "evil overcome by good is often justified" (p. 269). The fulfilment of all four ideals, the consistent explanation of all the facts, is found only in the hypothesis furnished by the act of God in "the historic Incarnation of God in a human life of Perfect Love, issuing in a society bound together by the power of that love" (p. 298). The Beloved Community (Mr. Temple does not use Royce's phrase) is apparently to be realized, first, by all other nations' seeking incorporation in the Commonwealth of the British Empire, as a federation of the world (in which case the title 'British Empire' would have to go), and ultimately, by all mankind's "coming into the Church" (pp. 251f., 346). The resultant orthodoxy is "not demonstrative knowledge," but precisely an hypothesis, "a venture, and faith" (p. 367).

This argument is not novel. The interest of the book lies not in its originality, but in its spirit and selection of subject matter. On the whole, the author aims at sketching the program of a new *Summa Theologiæ;* indeed he voices the need of the present age for a St. Thomas Aquinas. But at the same time, he is a modernist, with restrictions. For example, in the field of biblical science, the critical dating of Second Isaiah and Daniel are to him current coin, as is the view that monotheism was the creation of the eighth century prophets. Yet at the point where criticism would most vitally affect his thinking, namely in the Johannine problem, he has nothing to say. He has appropriated much of modern philosophy. Lotze, Bradley, Bosanquet, and Croce are the thinkers from whom he has learned most. Of Bergson's influence, apart from the allusion in the title, there is but the slightest trace. Pragmatism is casually mentioned.

The omissions of the book are most striking. Nothing is said of the history of any religion save Christianity; the mention of Hindooism on p. 258 is the exception that proves the rule. The problems of comparative religion do not exist for our author. Religious experience is mentioned, but significantly only as that which "confirms and is confirmed by the whole tendency of philosophy" (p. 259); religion then is regarded as primarily a form of belief, or intellectual construction; so that he can call it one of the "constituent sciences of human philosophy" (p. 298). The whole field of psychology of religion is passed by without a word. No greater contrast could well be imagined than that between *Mens Creatrix* and Coe's *Psychology of Religion*, or Wobbermin's *Systematische Theologie.*

Investigation in the field of the philosophy of religion, as in all other fields, to be fruitful must be based on a rigorous limitation of the problems to be investigated, or on an equally rigorous systematic completeness. Our author apparently aims at sketching the outlines of a complete system; but he is far from taking all the facts into account.

EDGAR SHEFFIELD BRIGHTMAN.

WESLEYAN UNIVERSITY.

The following books also have been received:

*Platonism.* By PAUL ELMER MORE. Princeton, Princeton University Press, 1917.—pp. ix, 307.

*Moral Values.* By WALTER GOODNOW EVERETT. New York, Henry Holt and Company, 1918.—pp. xiii, 439.

*Locke's Theory of Knowledge and its Historical Relations.* By JAMES GIBSON. Cambridge: at the University Press, 1917.—pp. xiv, 338.

*Instinct in Man.* By JAMES DREVER. Cambridge: at the University Press, 1917.—pp. x, 281.

*A Short History of Science.* By W. T. SEDGWICK and H. W. TYLER. New York, The Macmillan Company, 1917.—pp. xv, 474.

*A Primer of Logic.* By HENRY BRADFORD SMITH. Pulaski, Va., B. D. Smith & Bros., 1917.—pp. 48.

*Introduction to Juristic Psychology.* By PRABODH CHANDRA BOSE. Calcutta, Thacker, Spink & Co., 1917.—pp. 423.

*Il Nostro Soldato.* Per AGOSTINO GEMELLI. Milano, Fratelli Treves, 1917.—pp. xii, 339.

# SUMMARIES OF ARTICLES.

[ABBREVIATIONS.—*Am. J. Ps.* = *The American Journal of Psychology; Ar. de Ps.* = *Archives de Psychologie; Ar. f. G. Ph.* = *Archiv für Geschichte der Philosophie; Ar. f. sys. Ph.* = *Archiv für systematische Philosophie; Br. J. Ps.* = *The British Journal of Psychology; Int. J. E.* = *International Journal of Ethics; J. of Ph., Psy., and Sci. Meth.* = *The Journal of Philosophy, Psychology, and Scientific Methods; J. de Psych.* = *Journal de Psychologie; Psych. Bul.* = *Psychological Bulletin; Psych. Rev.* = *Psychological Review; Rev. de Mét.* = *Revue de Métaphysique et de Morale; Rev. Nèo-Sc.* = *Revue Nèo-Scolastique; Rev. Ph.* = *Revue Philosophique; Rev. de Ph.* = *Revue de Philosophie; R. d. Fil.* = *Rivista di Filosofia; V. f. w. Ph.* = *Vierteljahrsschrift für wissenschaftliche Philosophie; Z. f. Ph. u. ph. Kr.* = *Zeitschrift für Philosophie und philosophische Kritik; Z. f. Psych.* = *Zeitschrift für Psychologie und Physiologie der Sinnesorgane, I. Abtl. Zeitschrift für Psychologie.* — Other titles are self-explanatory.]

*The Case of Self against Soul.* MARY WHITON CALKINS. Psych. Rev., XXIV, 4, pp. 278–300.

The aim of the paper is to protest against the confusion of the concepts of soul and self. The self, the I, is ignored by contemporary psychology. For this neglect of the self in psychology there are apparently two chief reasons: (1) the self is so constant a fact in introspection that one simply forgets to name it; (2) the traditional, historical confusion of the term 'self' with 'soul.' 'Self' is used in this paper to mean the object of observation expressed in the words, 'I am conscious of myself.' It is indefinable (being in a class by itself); but is not therefore necessarily elemental and indescribable. It is a persisting, perceiving, developing, unique, complex and related self. Whereas the concept 'self' is primarily psychological; 'soul' is, on the other hand, common in philosophies and is even pre-philosophical. There are three chief meanings for the term 'soul': (1) the biological or vitalistic, which makes soul equivalent to life; (2) the metaphysical or immaterialistic, which makes the soul equivalent to the *not-body*; (3) the psychological notion of a conscious being which perceives, feels and thinks. It is significant in tracing these three conceptions through the history of thought to find that from the earliest days men appear to have held this third view of the soul along with one or both of the others. Plato somewhat confusedly combined all three. Aristotle conceived the soul vitalistically and psychologically. Stoic, Judeo-Alexandrian, Neo-Platonic, Patristic and Scholastic thinkers handed down the triple conception, while emphasizing the immaterialistic view. Augustine emphasized the psychological conception by insisting that the soul knows itself; yet he held along with this the conventional view of the soul, unreconciled to the other, although in juxtaposition. Descartes, by formulating the mechanistic conception of life, almost destroyed the biological pretensions of the soul; he still,

however, allowed it a precarious seat in the pineal gland. Though never free from the immaterialistic view, he makes much use of the psychological conception. Locke, while still holding to the vitalistic concept, dismissed the immaterialistic, and gave over almost all concrete characters of the soul to the self. Modern thinkers, attacking the vitalistic and immaterialistic views, have dismissed the soul altogether—even the psychological conception. Owing to this historic confusion of self with the soul they have unwisely rejected the directly experienced self, the basic fact of psychology. The remedy requires the reinstatement of the self in psychology and that the self shall take over all the psychological attributes of the soul. The term 'soul' shall henceforth be dismissed or retained as a mere synonym for conscious self.

MARIE T. COLLINS.

*Classic and Romantic Trends in Plato.* J. LOEWENBERG. Harvard Theological Review, X, 3, pp. 215–236.

The problem of the One and the Many is the center of Plato's philosophy, for his chief speculative endeavor was the search for unity. Of unity he had two conceptions: a unity antagonistic to the many, and a unity compounded of the many. Hence his romantic trend appears in emphasizing the conflict between unity and multiplicity, while his classic trend consists in his teaching as to the reconciliation of the universal and the particular. As a romanticist, he considered the world of particulars to be, from one point of view, negative and grotesque, but from the philosophical point of view, symbolical or suggestive of a transcendent realm of unity. As a classicist, he presents the conception of a unity resulting from the harmonization of the One and the Many into an organic whole. Plato's two conceptions of unity promise to afford a basis for defining most of the problems connected with classicism and romanticism in art and in philosophy.

ERNEST BRIDGES.

*Ritschl's Criterion of Religious Truth.* EDGAR S. BRIGHTMAN. American Journal of Theology, XXI, 2, pp. 212–224.

The study of Ritschlianism is rendered difficult by the belief that Ritschl's thought is a closely knit logical unity, and also by the belief that his central doctrine is that of the value-judgment. Both beliefs are misleading. In his *Rechtfertigung und Versöhnung*, he lays much stress on values, but not so much as on other ideas, such as the community, revelation in Christ, and the Kingdom of God. He held that the business of the science of theology was to formulate the faith of the Christian community. The theologian must be a genuine member of the Christian community, and start with the presupposition of the truth of the community's faith in Jesus Christ. His central doctrine was not a theory of values but an emphasis upon the norms and traditions of the religious community. He rejected the doctrine of the *testimonium spiritus sancti* on the ground that the Spirit is never really given to the individual as such, but only to the individual as a member of the community. He rejected

metaphysics because it could never lead us to know the God revealed to the Christian community. He held that religion involved value-judgments, but these value-judgments were an affair of the community, a means of mutual understanding among Christians; they could not prove the truth of Christianity to a Buddhist or a Mohammedan. Christianity did not derive its truth from its value; rather it was valuable because it was Christian. However, Ritschl used other standards of truth besides the faith of the community. Thus he sometimes appeals to the individual's consciousness of ethical activity and spiritual dignity. At other times he appeals to immediate experience. He failed to correlate these three criteria. He over-emphasized the idea of the community, and failed to understand the immanence of God. He did not appreciate the evangelistic and missionary character of Christianity. At the same time, he has brought us the fruitful message that religious truth is primarily social.

W. CURTIS SWABEY.

*Ritschl's Use of Value-Judgments.* E. ALBERT COOK. American Journal of Theology, XXI, 4, pp. 545–553.

Ritschl held that in religion we seek for a solution of the contradiction which man finds in himself as a part of the order of nature and as a spiritual being. Religion gives man mastery over, and superiority to, the order of nature. The basis of religious knowledge, of belief in the Christian God, is our belief in the infinite value of human personality, which we see *ought* to dominate the world, and the positive value realized when we believe that it *does* dominate the world. Theoretical knowledge cannot vindicate the conclusions of religious knowledge. Both materialism and idealism are one-sided and are ultimately based on an aberrant religious impulse. The theoretical reason, however, is obliged to recognize the reality of the spiritual life, and thus the validity of religious knowledge, which is, however, exclusively reached by the method of value-judgements. The divinity of Christ consists in his overcoming of the world, his patient endurance, his love of man, and his spiritual independence. In that overcoming of the world for *himself*, and in the power to overcome the world which we receive through faith in the *principles* of his life, and in that *life* as a manifestation of the eternal God who guarantees to us final superiority over the world, we recognize Christ's divinity. Ritschl is right in saying that we have no knowledge of God which leaves out of account man's spiritual nature. The strongest evidence of the existence of God is, as Ritschl says, man's experience of God's power, in man's attainment of mastery over the world. But this is not the only evidence; science and history also furnish evidence which can be interpreted in the light of religious truth.

W. CURTIS SWABEY.

*What is a Dogma?* EDOUARD LEROY. The Monist, XXVII, 4, pp. 481–523.

The object of this article is to place suggestive solutions before those competent to render a decision. At present the real difficulty in questions of

dogma is with postulates and with the manner of approaching the investigation. Keeping this fact in mind, we must consider first four current objections to the idea of dogma. (1) Dogmas are considered undemonstrable, whereas modern thought demands proof, especially of vital propositions. (2) Where indirect proofs have been given, these have appealed to authority and have had too much the character of attempts to impose external facts on the individual. But facts, to be assimilated, must be complements of previous knowledge. (3) Dogmas are ambiguous, reflecting both the context of antiquated philosophical theories and certain anthropomorphic conceptions, and hence many accept them uncritically. (4) Dogmas seem to be unrelated to the ordinary body of knowledge and hence to efficient intellectual life. Thus they seem useless at a time when the value of truth is measured by its serviceability in vivifying knowledge. Such being the objections to the idea of dogma, there are some lessons to be drawn from them. In themselves the arguments are irrefutable, but it can be shown that the postulate on which they are based is erroneous. Indeed, dogmas are supposed to have scientific significance because emphasis is placed on the intellectual and not on the practical and moral side of a dogma. We must, then, attempt to arrive at a satisfactory idea of dogma. In this attempt, examples of dogmas—such as those of the divine personality, the real presence, or the resurrection of Jesus—show us that the first function of dogmas is not the communication of certain theoretical bits of knowledge, for we can not render explicit the implications of the dogmas. Dogmas formulated to point out errors attack the fallacious doctrine only after placing themselves at its point of view. Hence they should be considered in terms of what they oppose; for, in themselves, they do not formulate truth and they can only be understood by reference to their historical origin. It is evident, then, that from a theoretical standpoint, the dogma has a negative meaning, yet its principal value is its positive meaning. There are important consequences of realizing that dogmas concern conduct rather than reflective knowledge. Such being the case, the examples of dogmas already indicated have significance. Furthermore, the objections stated are invalid, for in certain conditions where logic would be impossible, action can solve the problem; one may, in the realm of action, submit by act of free will to authority; dogmas are intelligible as regulations of conduct; and they have a self-evident relation to efficient life. Having seen the relation beween dogma and action, we can better understand that between dogma and thought. Dogmas, as guides to action, may be speculated on so long as speculation finds justification for rules. When theory attacks the dogma, however, the dogma stands as a condemnation of the theory and thus assumes a negative meaning. Dogmas, then, are constant in their practical aspect but changeable in their theoretical. Hence, though the intellectualist conception of dogma presents unanswerable difficulties, a doctrine of the primacy of action does not, in permitting solution, deprive thought or dogma of its rights.

MARJORIE S. HARRIS.

*La logique phénoménale.* P. DUPONT. Rev. Ph., XLII, 10, pp. 297–324.

It is possible to establish logic upon the basis of phenomenalism and the most pronounced subjectivism. For such a system there will be three degrees of certainty of knowledge: (1) that of phenomena given in sensation; (2) that of determinate scientific foreknowledge, of which the methodological principles are verified by past experience; (3) that of foreknowledge arrived at without such experientially confirmed rules of procedure. Scientific method is based on two fundamental inductive postulates: (1) that there are phenomena indissolubly connected in a determinate relation; (2) that there is an indissoluble connection between two phenomena when inductive methods furnish no proof to contradict it. Any scientific law, or fact derived from such a law, has only such validity as these two postulates possess. These laws, as expressions of universal relations, are judgments. Each application of one of them to a particular case is likewise a judgment. Each judgment is the subsumption of concepts or objects of one class under those of another class. Thus the operations of these laws will proceed on the basis of deductive principles of classification. (1) When a multiplicity of objects is divided into two classes, each object is placed in one or the other, and will remain there under the existing conditions. (2) When an object, or class, $A$, belongs to a class, $a$, and this class, $a$, belongs to a class, $a'$, then the first object, or class, $A$, will also belong to this class, $a'$. The syllogism is an operation of these principles, and its conclusions will contain the residue of scientific doubt inherent in this method, provided it be more than the mere application of a law to a particular case under that law. The conclusion of a geometrical proposition is not merely an application of one law to a particular case, but of several, and necessitates a definite order of combinition in order to achieve the desired result. The rules of formal deductive logic are the different applications of these two principles, in which concepts, propositions, and syllogisms are properly related and classified. These postulates and principles have thus been applied and tested in past experience, but they must also be justified as adequate for future procedure as well. This justification can come only through the uniform verification by experience of results previously deduced from their operation. Science can thus reduce philosophical doubt to a minimum through the unity of the whole, whereby the entire weight of verification will come to bear on the smallest possible number of fundamental postulates. Such a science will prove its value by the richness and precision of its results. Every scientific hypothesis which is verified in experience will confirm all science, since all science rests on the same two inductive postulates and their applications. The accumulated evidence of centuries of scientific research establishes the validity of the procedure adopted in this research. Scientific laws are only ideally precise, and inability to apply them with quantitative exactness in experience does not detract from their value. That the three angles of a triangle are equal to two right angles is true, although this can never be exactly verified in experience. The connection which can be affirmed as existing between two phenomena is never rigid, at least it can not be affirmed as such.

A. M. TOMFOHRDE.

*Psychologie et logique de Destutt de Tracy.* R. LENOIR. Rev. Ph., XLII, 12, pp. 527–556.

During the latter half of the eighteenth century the revolution in science produced a great revolution in the thought of Europe. Among thinkers who believed in the possibility of a science of ideas and who at the same time had greater confidence in the objective value of science than the Criticists of Germany, the movement took the form of an attempt to establish by means of a more or less empirical analysis of knowledge a psychology of the intelligence and a new basis for logic. The tendency found its most complete expression in Destutt de Tracy. Trained in the Cartesianism of the Port-Royalists, de Tracy was also deeply influenced by Condillac and in lesser degree by the methods of La Place in astronomy and by the physiological studies of Cabanis and Pinel. The task he set himself was to develop an 'ideology' or science of ideas by analyzing thought as far as possible into its simple sensational elements. Judgment to him was the faculty of perceiving relations between perceptions and ideas and of analyzing and combining them. It was a unique intellectual operation originating in bodily movement. Judgment was not subordinated to *awareness* of bodily activity, however, for these movements might be unperceived and relations might be established automatically. We pass many judgments without being aware that we have made them. A judgment of the difference between two ideas means that we feel an idea and feel in this idea the fact of its being different from another. By connecting judgment with the organism, analysis discovers logical diversity among minds. Judgment is analytic, comprehensive, existential and affirmative. If to judge is to feel a relation, it is a positive thing; for what could it be to feel a relation which did not exist? Aristotle's fundamental error was the belief that in general ideas lay the principles of all knowledge, whereas particular ideas are the source of knowledge. Logic cannot do its thinking independently of psychological reality. De Tracy interpreted Descartes's first truth in the sense: We are because we feel, or we think because we have perceptions. His theory rests on a preëstablished harmony between reality and our chain of ideas, guaranteed by our certainty of our own perceptions and by the common-sense belief that pure sensations are the same for everyone. Error in reasoning arises through the mobility of thought. The mutations of ideas make exact correspondence between memories and present perceptions impossible. De Tracy did not himself see that he had reduced logic to a chapter in psychology; and that in his theory of judgment he had evolved a new theory of truth, making it subjective and practical, and implying the relativity of all science. He recognized the complexity and fusion of conscious processes, indicated the rôle which motor elements play in conscious activity, and pointed out the fact of the unconscious. He analyzed what we now call attitudes of mind, and his theory of judgment is in close accord with some of the most recent work on that subject.

MARIE T. COLLINS.

*De la nécessité d'une réforme dans l'enseignement de la logique.* L. ROUGIER. Rev. de Mét., XXIV, 5, pp. 569–594.

Logic is defined as the study of the processes employed by the human mind in seeking truth. Truth may consist in the agreement of our thoughts among themselves (formal truth), or in the agreement of our thoughts with the facts which they represent (empirical, intuitive truth). To these two kinds of truth correspond the two kinds of logic: formal deductive logic and practical inductive logic. Formal logic concerns itself with guaranteeing the coherence of our judgments among themselves without regard to their empirical verity; it requires of its objects only logical existence or non-contradiction. Given a certain number of notions and non-contradictory propositions, formal logic undertakes to deduce from them new notions involving necessary existence and new propositions necessarily true, provided that the first notions and first propositions be supposed true. Inductive logic concerns itself with establishing agreement between the material of our judgments and the facts on which they bear. It may be described as the study of laws or rules which enable us to make predictions which can later be tested by experience. Corresponding to these two sorts of truth are the two kinds of sciences: formal sciences and sciences of nature. The object as studied in the formal sciences is the product of a free creation of the scientific mind, which posits *by convention* a system of non-contradictory notions and first propositions, and deduces from these by means of rules of formal logic an unlimited sequence of new notions and propositions. Although this choice of a system of indefinable first propositions is said to be conventional, by this is not meant that it is arbitrary. It is conventional only in the sense that there may be an infinity of equivalent systems to solicit the scientist's attention. The object studied by the natural sciences exists prior to the mind of the scientist, imposes itself from without, and to it the scientist must submit passively. This paper deals with formal logic. M. Rougier is contending mainly against certain Aristotelian *idola fori* noticeable in the logic taught in the schools. These errors are due for the most part to an identification of reasoning with the syllogism. The consequences of this mistake are that, since the syllogism only goes from the general to the particular, mathematical demonstrations (which almost always go from the general to the general or from the specific to the general) have to be explained by extra-logical processes, such as intuitive apprehension through simple inspection of the figures or through such operations as reversal, rotation and translation. For any adequate logic whatever, alongside deductive reasoning, we must imagine an inverse inductive reasoning, going from the particular to the general, and also reasoning by analogy, which goes from particular to particular. The erroneous identification of reasoning with the syllogism has given rise to false ideas of deduction, of demonstration, of the practical application of mathematics and the distinctions between the natural and the formal sciences. Alongside the syllogism other elementary types of inference must be reëstablished; along with the logic of classes and propositions must come the

logic of relations; along with the nominal definitions by genus and specific difference, other types of definitions, either explicit or implicit, of classes, relations or of functions. Since reasoning does not proceed exclusively from the general to the particular, we can recognize that the Baconian induction is a genuinely hypothetical generalization from a single empirical or intuitive instance. In reasoning by analogy we can admit an association of ideas through resemblance or a syllogism from a synthetic major premise. Furthermore, the opposition between reasoning and demonstration will be done away with, and it will become possible to reconcile the necessity of the theorem established with the fact of novelty and general acceptance.

Marie T. Collins.

*Pour le progrès de la métaphysique.* Charles Dunan. Rev. de Mét., XXIV, 5, pp. 489–515.

Philosophy seeks the ultimate unity of all things. Neither common sense nor science can take its place, for both of these lack the one system, the consistency, and unity that philosophy requires. Common sense and science are means of adaptation of man to his environment; but philosophy does not seek means of adaptation, it seeks to understand; it seeks the absolute. The Greek philosophers had established a true foundation for philosophy, but the first centuries of Christianity lost the Greek spirit, and with it the Greek temper of philosophy. In its place arose, first mysticism, then the rule of common sense, and in the present era the dominance of science. Modern philosophy has no true metaphysics; it has left metaphysics for science. But we must have a metaphysics to serve as a basis for morality, and as a key to the essence of nature. The apparent metaphysics that we now have, though highly respected, is not believed. It cannot be believed, for the different systems are individual creations of individual minds. Since there is only one 'nature' there can be only one metaphysics. The system that we are seeking cannot be manufactured; it must be found, and found only in nature. We must, therefore, go to experience. However, the experience that metaphysics is based upon is totally different from that upon which science rests. The experience upon which metaphysics is based is that of perception, reflection, the formation of opinions, and their correction by further experience. A number of thinkers experimenting with this method as applied to the same problems, should one day establish certain fundamental principles upon which all would agree. Such an agreement would have power and truth. This was the method of the Greek philosophers, and through it they discovered a great part of metaphysics. Metaphysics is the science of 'being,' and can be the result only of thought; *i. e.*, it must be *a priori*. To discover the true metaphysics we must have a clear conception of 'reason,'—something different from mere 'understanding,' with which we have confused it. Undertanding may serve the purposes of science, for science deals only with existence, *i. e.*, with the world of phenomena. Metaphysics deals with being, and being is the idea of the absolute who thinks it. Kant had pretended that nature posited a number of problems

transcending reason, and he threw them into the pit of unknowables. Such a division of nature, however, is not possible. Nature is one, everywhere harmonious with itself. Reason is not one of the elements of nature; it is nature itself in its noumenal being. It is then an incontestable truth that all is rational; that the reason of things and the things themselves proceed from a universal and absolute reason. This reason created all natural beings, but manifests itself only in man. Since reason can function in us only through body, it is limited and imperfect in its results. Yet there is no mystery hidden from the eyes of man that is not penetrable, for reason is always with us. We should endeavor to see more clearly and to come into a closer and closer communion with absolute truth.

JULIUS COHEN.

*The Meaning of "The Universe"* (2). C. E. HOOPER. Mind, N. S., XXIV, 103, pp. 273–290.

In the first part of this paper, which appeared in the April number of *Mind*, 'the Universe' was defined as meaning "the totality of real thought-objects considered under four related aspects": Space, Time, Natural Characters, and Natural Causation. This concluding part of the article deals with the finite, separable contents of the universe. These contents are classified as of eight kinds: entities, materials, events, processes, features, qualities, magnitudes and actual relations. While all may be denominated contents of the universe (under the aspect of Natural Characters), only the entities may be said to form true constituents (under the aspects of Space, Time, and Cause). Entities possess qualities of their own, enter into relations, and by and through them all, processes and events take place. There is no genuine logical inconsistency between the view expressed in the first part of this paper, *i. e.*, that the universe is a necessary unity of various complementary modes related to human thought, and the view expressed in the latter part, *i. e.*, that the universe is "a collective unity of relatively enduring, integrating and disintegrating things." While it is legitimate to contemplate the universe through combining the data of the natural sciences, no new knowledge in these fields can invalidate the world of changing, concrete things. There is, however, an inevitable conflict of sentiments and values according as we regard the universe abstractly as a group of eternal types and modes or as a group of relatively transient individuals. The position here maintained is broadly monistic, though compatible with a relational dualism. It attempts to show a double duality in the universe through the aspects of Space and Time being joined to those of Character and Causation. Human reason exercises its proper function in perceiving these distinctions and further in discriminating with regard to what is logically consistent, scientifically true, ethically, politically, aesthetically and practically valuable. The question as to whether man will ever be able to trace a great orthogenic principle or soul in the universe remains unanswered.

MARIE T. COLLINS.

*Luther's Place in Modern Theology.* JOHN WRIGHT BUCKHAM. American Journal of Theology, XXI, 4, pp. 485–511.

Luther was a theologian as well as a hero and a reformer. As a theologian he was fully equipped, having a knowledge of Hebrew, Greek and Latin, and being conversant with the Fathers, especially Augustine. Although he had some appreciation of scholasticism, he was blind to what was best in it; Aristotle was to him only a blind heathen, and he knew little of Aquinas. He left no closed system of theology; his thought was outspoken, open-hearted, free and inconsistent. The fundamental feature of Luther's theological thought was its Christo-centric character. In this it contrasts with Calvinism on the one hand and Catholicism on the other. The doctrine of justification by faith has too often been understood in a formal way. Luther desired relief from the burden of sin, some one to whom to turn for peace of mind and redeeming strength, and these he found in Jesus Christ. "True faith," said Luther, "is a sure trust and confidence in the heart, and a firm consent whereby Christ is apprehended." Christ was to Luther much what he was to Paul. Luther's relation to Christ contained a deep element of mysticism. Thus he teaches that by faith the soul is united to Christ as the bride to the bridegroom. By this mystery Christ and the soul become one flesh. His doctrine of justification by faith seems to have arisen from his mystical experience of Christ. The bond between persons, although the most unquestionable of all things, is by its very nature mystical, too deep and real to be fully understood. Luther's mystical relation to Christ was of this sort. This bond between the individual and Christ he called faith, and its effect, justification. These are symbols of a reality too great for formulation. Another fundamental characteristic of Luther's theology is its experimental character, its basis in experience. This was the basis of his estimate of the Bible; he saw the intrinsic superiority and inner splendor of the Bible. Since he was guided by a sense of value he treated certain books of the Bible with a degree of freedom. His theology was also marked by ethical integrity. Faith was for him the first and highest good work. This was not because he disparaged conduct but because he wished to get at the inner motive which lies behind conduct. A weaker side of his thought was his supernaturalism and his belief in the devil. He also held to the doctrine of a corrupt and depraved human nature. He was a thoroughgoing determinist and likened the will to an ass: "The human will is like a beast of burden. If God mounts it, it wishes and goes as he will; if Satan mounts it, it wishes and goes as he will. Nor can it choose the rider it would prefer, nor betake itself to him, but it is the riders who contend for its possession." Luther's thinking was also limited by his individualism. His greatest insight was his recognition of the power of the gospel to hallow and transform life in all its instincts and activities; that is, that the mission of faith in Christ is to release and to reconstruct human life. The new conception of faith in Christ which we find in Luther means the death of dogma, the universalizing of Christianity, and a reunited Church whose foundation will be Christian experience centering in Christ.

W. CURTIS SWABEY.

*Francis Bacon and the Modern Spirit.* M. T. McClure, J. of Ph., Psy., and Sci. Meth., XIV, 19, pp. 520–526.

Bacon is "the exponent and the prophet of the modern spirit." In the concept of 'modern' we include the ideas "of progress, of control, of utility and of responsibility." Bacon has pointed out the necessity of turning from the consideration of the ideas of antiquity, especially the Platonic conception of the world as static, to the attempt to make progress through discovery. He has shown that this progress should be given direction through method. Whatever we say about Bacon's use of the inductive method matters little, for his important contribution was the insistence on methodological control, on control by mind. He has indicated that this mental control should so direct progress that it would operate for human welfare. He has made clear that the ability for such control imposes on us great responsibility which we cannot shift. Man's duty is to use his mind for the advancement of what is worth while.

Marjorie S. Harris.

*La philosophie française en Amérique.* W. Riley. Rev. Ph., XLII, pp. 393–428.

The influence of French philosophy in America may be described by applying Comte's law of the three stages. In the first stage, the theological stage, represented by the Puritans, the French influence was that of Voltaire, and was destructive in effect. In the metaphysical stage, the period of transcendentalism and deism, the French influences were Cousin, Constant and Jouffroy. The positivistic period shows the less definite influence of Comte. The *Dictionnaire* of Voltaire was influential although it was proscribed by the colleges. Many other French thinkers had an important influence, *e. g.*, Buffon, whose *Epoques de la nature* nourished the thought of American Deists; Cabanis, whose materialism affected Jefferson; Condorcet, whose *Progrès de l'esprit humain* was printed in Maryland; and Volney, whose *Ruines ou Revolutions des Empires* excited much popular interest. French naturalism gave way to spiritualism and transcendentalism, however, under the influence of Maine de Biran and Cousin, and these new influences were felt in America. Cousin was important in introducing German idealism into America, and thus contributed to the transcendentalist movement. Transcendentalism was a reaction against the teachings of Locke and the Scotch school. Cousin's doctrine of an immediate rational intuition of the divine was congenial to the transcendentalists. The eclectic system met with opposition on all sides, but was defended by Caleb Henry and George Ripley. It was severely criticised by Francis Bowen. Emerson studied Cousin, but was not greatly impressed by him, finding him too systematic. Eclecticism was unpopular because the Americans were men of parties and despised 'mugwumps.'

W. Curtis Swabey.

# NOTES.

We give below a list of articles in current magazines:

THE INTERNATIONAL JOURNAL OF ETHICS, XXVIII, 2: *Arthur K. Rogers*, The Principles of Distributive Justice; *Herbert L. Stewart*, The Alleged Prussianism of Thomas Carlyle; *Alfred H. Lloyd*, The Glory of Democracy—Poetry, Comedy and Duty; *Kia-Lok Yen*, The Bases of Democracy in China; *Wilbur M. Urban*, Tolstoy and the Russian Sphinx; *John M. Mecklin*, The Tyranny of the Average Man; *James Lindsay*, Ethical Christianity in Europe.

THE HARVARD THEOLOGICAL REVIEW, XI, 1: *Herbert L. Stewart*, The Place of Coleridge in English Theology; *Kirsopp Lake*, The Sinaitic and Vatican Manuscripts and the Copies sent by Eusebius to Constantine; *Richard Wilson Boynton*, The Catholic Career of Alfred Loisy; *William Jerome Wilson*, Some Observations on the Aramaic Acts.

THE AMERICAN JOURNAL OF PSYCHOLOGY, XXIX, 1: *Ivy G. Campbell*, Manaism: A Study in the Psychology of Religion; *Albert Schinz*, French Origins of American Transcendentalism; *W. D. Wallis*, Ethical Aspects of Chilkat Culture; *Mabel Ensworth Goudge*, A Qualitative and Quantitative Study of Weber's Illusion; *Gilbert J. Rich*, A Checking Table for the Method of Constant Stimuli; *K. M. Dallenbach*, Note. Dr. Morgan on the Measurement of the Attention.

THE JOURNAL OF PHILOSOPHY, PSYCHOLOGY, AND SCIENTIFIC METHODS, XIV, 25: *R. W. Sellers*, The Status of Epistemology; *Frederick J. E. Woodbridge*, Structure; *Charles W. Cobb*, The First Antinomy of Kant.

XIV, 26: *Wilbur M. Urban*, The Pragmatic Theory of Value: A Reply to Herbert W. Schneider; *Herbert W. Schneider*, The Values of Pragmatic Theory: A Rejoinder to Professor Urban.

XV, 1: *C. A. Strong*, Fate and Free Will; *A. K. Rogers*, The Philosophy of Loyalty.

XV, 2: *John Dewey*, Concerning Alleged Immediate Knowledge of Mind; *C. E. Ayres*, The Epistemological Significance of Social Psychology; *June E. Downey*, The Proof-Reader's Illusion and General Intelligence.

JOURNAL OF EXPERIMENTAL PSYCHOLOGY, II, 6: *June E. Downey* and *Edwin B. Payson*, Unidextrality and Mirror-Reading; *Herbert S. Langfeld*, The Differential Spatial Limen for Finger-Span; *Herbert Woodrow* and *Benjamin Karpman*, A New Olfactometric Technique and Some Results; *Henry F. Adams*, The Memory Value of Mixed Sizes of Advertisements; *J. F. Dashiell*, Children's Sense of Harmonies in Colors and Tones; *V. A. C. Henmon*, The Relation between Learning and Retention and Amount to be Learned.

Revue de Métaphysique et de Morale, XXIV, 5: *Ch. Dunan*, Pour le progrès de la métaphysique; *G. Morin*, L'individualisme de la Révolution Française et du Code Civil et la structure nouvelle de la vie économique; *L. Rougier*, De la nécessité d'une réforme dans l'enseignement de la logique.

XXIV, 6: *A. Darlu*, "La religion" de M. Loisy; *L. Dauriac*, De la nécessité médiate et de la nécessité immédiate; *A. Reymond*, Les ordinaux transfinis de Cantor et leur définition logique.

Revue Philosophique, XLII, 12: *L. Rougier*, La matérialisation de l'énergie (1er article); *R. Lenoir*, Psychologie et logique de Testutt de Tracy.

Rivista di Filosofia, IX, 4: *L. Ventura*, La guerra come catarsi spirituale; *R. Resta*, L'etica sub specie aeterni.

Rivista di Filosofia Neo-Scolastica: IX, 5: *P. Guido Mattiussi*, S. J., Fede e mente moderna; *Bohdan Rutkiewicz*, Biologia e filosofia.

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# THE PHILOSOPHICAL REVIEW.

## SCIENTIFIC METHOD IN PHILOSOPHY AND THE FOUNDATIONS OF PLURALISM.

I. *Introductory.*—The opening years of the twentieth century have witnessed, among other things, the gradual emergence of a new school of philosophic thought, and a new philosophic method. To the former, which originated in America, the name of 'New Realist' has been given. The exponents[1] of the latter designate it the 'Scientific Method.' New Realism is largely imbued with the spirit of the scientific method, and, for the purposes of criticism, the two may be treated together. The new method claims[2] to make an entirely fresh start in philosophy, to discover what problems are capable of solution, and to open the road to that solution to those who are willing and able to make the requisite effort.

The reason for this new departure in philosophy is not far to seek. The last half of the nineteenth century gave birth to changes in the world of science of a revolutionary nature. To take two examples alone, Darwin's doctrine of Natural Selection and Maxwell's Electromagnetic Theory brought about an entire change of outlook in their respective domains of biology and physics, with a consequent overhauling of all the traditional concepts and principles. It is a commonplace that science and

[1] Whitehead and Russell.

[2] B. Russell, *Our Knowledge of the External World*, Lect. I and conclusion of Lect. VIII. Mr. Russell designates his particular type of realism, "logical atomism."

philosophy invariably act and react on one another. The scientific revolution was followed by an upheaval in philosophy. Everything went into the melting pot. There emerged a confused mass of opinion following upon the attempt to fit new facts to old systems, which finally settled down into two main tendencies of thought, the one clinging as far as possible to a modified Absolutism based on Kant and Hegel, the other launching out more boldly in an attempt to apply Evolution as a comprehensive metaphysical formula. The latter, though now generally discredited even by its posterity, was the forerunner of the modern evolutionary and pluralistic schools.

While much of the old remained in the new, there was, of necessity, a vagueness both in ideas and in method. Philosophy was cumbered with a mass of useless metaphysical cobwebs. Inevitably there arose an increasing demand for a general clearing up with a view to a fresh start. In this demand the new[1] scientific method finds its motive force, and history is repeating the story of Descartes over again.

Schools of philosophy may be classified according as they differ in method or in system. Whichever mode of classification is adopted, the various schools fall, broadly speaking, under two main headings. In method they are Empirical or Rationalist; in system, Pluralist or Singularist. Empirical method and pluralistic belief tend to go together, for if we appeal for the most part to the crude data of sense, we are confronted by a manifest plurality. On the other hand, the craving for unity has constantly caused men to mistrust the world of sense with its eternal diversity and flux, and led them to seek the characteristics of the totality of existence by pure thought alone. Hence the method which leads to the singularist or absolutist view of reality is essentially rationalistic.

We can best trace the path of progress if we observe the development and interaction of the two classical methods of attacking the problem. Most great advances in philosophy have consisted in a partial synthesis of Rationalism and Empiricism. Kant's work is a supreme example of such a synthesis. The

[1] 'New,' that is, in its particular mode of application of scientific principles to philosophy.

type of advance is analogous to that of the Hegelian dialectic. In emerging into antithesis after each successive synthesis, Rationalism ever tends to include more empirical data in the material with which it works, while Empiricism is inclined to stray ever further from the surface of things by building up its data into abstract intellectual constructions, and by framing more or less abstract hypotheses to account for these data.

Pluralism, with its genetic method, is the modern outcome of Empiricism. The position of Rationalism is not, at first sight, so clear. One's thoughts turn naturally to the idealism of the Absolutist school; but although the beliefs of this school are upheld by some of the foremost philosophers of the day, they represent an influence which is rapidly on the wane. The true progressive product of Rationalism, despite the fact that its data are mainly empirical, is the New Realism, for its scientific method purports to deal with the form and structure of existence as opposed to its concrete content.

The final synthesis of the two points of view consists not in an amalgamation, but in a recognition of the fact that each is necessary to the complete fulfilment of philosophic purpose, and in a determination of the particular function, domain, and limitations, of each associated method.

II. *Outline of Scientific Method.*—The scientific method[1] attacks the problem of the Universe piecemeal. A problem is selected, isolated as far as possible, and an attempt made to clarify our conceptions relating to it, and to determine by continued analysis, the true source of the perplexities underlying the question. The final step, and the most difficult, is to formulate an hypothesis which will resolve these perplexities. The difficulty of this last process lies in the fact that the necessary hypothesis is inevitably of a peculiarly abstract nature, for at each successive stage of the analysis the matter under consideration becomes more abstract.

In any particular investigation, the initial data consist in the generally accepted body of knowledge on the subject. This knowledge will almost invariably be vague and confused, and

[1] B. Russell, *op. cit.*, beginning of Lect. VIII.

the task of analysis is to resolve it into a number of definite propositions. The latter, when the ultimate premises have been reached, are arranged in logical sequence. The premises should be stated with the minimum of redundance. They must then be scrutinized in turn with a view to ascertaining the particular degree of doubt or certainty attaching to each. This provides us with a criterion of the doubtfulness or certainty pertaining to each proposition of the sequence, and to the initial data in particular.

In general the scientific method makes use of three types of data:[1] sense-data, the testimony of others, and certain primitive logical truths. In making use of testimony, the existence of other people must be tacitly assumed. It is impossible entirely to justify this assumption. On the other hand, its falsity cannot be established, and it is indispensable in opening up a relatively immense field of knowledge, whereas solipsism is practically barren.

One of the most important applications of the scientific method is to the analysis of the meaning of the concepts of physical science,[2] and the investigation of their validity as representative of the world of fact. Evidently, the material from which the start must in this case be made, is the data of sense. Since all scientific observation consists in perceiving sequences of sense-data, and since the verification of a physical prediction lies in an appeal to the occurrence of some sense-datum, it follows that if the entities of the physicist are to be valid conceptions, they must be capable of representation as logical functions of sense-data. Even if they be so represented, it does not follow necessarily that they exist concretely, nor does it matter. The importance of such a critique of physical science is great, for the physicist is often apt to consider his entities as the true realities of the universe, regarding them *as inferences* whereas they are merely *constructions*. The data of sense are the indubitable concrete facts.

The exponents of the scientific method claim that it is capable of ascertaining all that is soluble in the problems of philosophy,

[1] B. Russell, *op. cit.*, Lect. III.

[2] *Ibid.*, Lect. IV.

and of effecting the solution. They regard it as giving the method of research in philosophy just as mathematics gives the method of research in physics. It alone is capable of yielding whatever objective scientific knowledge it is possible to attain.[1] This is certainly true enough so long as we regard merely the objective side of experience as such. For the task of science is twofold. It has first to record and correlate the particular concrete facts of experience. This is the function of the specialized sciences. But the forms of the particular facts and the general aspects of experience have also to be investigated. This investigation falls to the lot of the philosopher. The things he deals with in performing it are therefore essentially abstract.

The function of the scientific method, then, though in part constructive, is mainly critical. Its field is the objective side of experience, and its scope is comprised in the determination of the validity of the concepts we apply to this objectivity, and in the solution of certain problems by the construction of other valid concepts and hypotheses. This construction it performs by analyzing the general forms of experience. All questions such as, for example, ethical problems, are therefore regarded as outside the scope of philosophy, for they are considered to deal with the particular characteristics of the particular things composing the world.[2]

Although the results obtained by the scientific method may be mathematically accurate, and therefore a complete solution of the type of problem with which it deals, it will be seen later that the data from which it starts introduce an element of inadequacy. Moreover, the question arises as to whether the problems considered are the only ones with which philosophy may legitimately deal. It has commonly been considered that one of the supreme tasks of philosophy is to provide an *explanation* of the facts of experience. The hypotheses yielded by the scientific method are evidently purely descriptive in type. Can any hypothesis, however, be considered explanatory, or are all hypotheses descriptive, differing merely in the entities in terms

[1] *Op. cit.*, Lect. VIII, conclusion.

[2] All New Realists do not take up this attitude with regard to ethical and analogous problems—*e. g.*, R. B. Perry in *Present Philosophical Tendencies*, Ch. XIV.

of which the description is expressed? It will shortly be seen that one type of hypotheses may be considered as truly explanatory in an entirely unique sense. In this connection it is of the utmost importance to remember that there is both an objective and a subjective side to every question. Just as much light will be thrown on a problem by an investigation of the manner in which we have arrived at our relevant concepts on the subject at our present level of experience, as by an investigation of what the precise meaning of the concepts must be, if they are to be validly representative of objective experience. The concepts we have formed may involve unwarrantable assumptions if applied uncritically to objective experience as such, but if their true meaning for us, and the manner in which that meaning has been acquired, are analyzed, not only shall we realize our own nature more clearly, but there is a possibility of the suggestion of fruitful hypotheses as to the nature of existence generally. We are thus led naturally to the consideration of pluralism and the genetic method.

III. *Outline of Pluralism and the Genetic Method.*[1]—Pluralism is based on the existence of the self. All philosophers do not believe in the existence even of one self. Reasons will be stated hereafter, however, which seem to render doubt on the subject not only logically impossible, but inherently meaningless. The word 'self' will be used as synonymous with 'subject of experience.' All confusion with the various meanings of the empirical self, which relate essentially to the self as *conceived*, will thus be avoided. For the class of selves or subjects considered in relation to their experience, the term 'mind' will be used. This meaning appears to approximate most closely to the general usage of that somewhat vague term.

Starting from matter, *i. e.*, from matter as generally conceived by physics and by the main body of common sense, it is impossible to bridge the apparent gulfs between the inorganic and the organic, and between Life and Mind. Herbert Spencer's work

[1] The term 'Pluralism' is used in this article to denote a spiritualistic pluralism, namely, the view which regards the world as made up of selves or subject of experience.

bears eternal witness to this fact. The only alternative, therefore, is to start from Mind and endeavor to work back. This is the endeavor of pluralism. The pluralistic hypothesis is briefly as follows: "Reality comprises selves (*i. e.*, active subjects of experience) alone, differing simply in degree of mentality, though the diversity is indefinitely various." Experience, then, consists in action and reaction between self and other selves, described by Professor James Ward in the expressive phrase "*mutuum commercium.*" The meaning of 'activity' is considered to be fundamentally realized by everybody, but to this point we shall return.

The comparative hopes of a solution of the problems of philosophy held out respectively by Pluralism and by any form of Materialism, are sufficiently indicated by comparing the start made from the existence of selves as a basis, with that based on the existence of ultimate material particles—atoms, corpuscles, electrons, or whatever they may be considered to be. We know that some selves exist.[1] Strictly, each of us knows that *one* self exists; but, as we have seen, if we are to philosophize to any extent worthy of the name, we must take a further step and assume the existence of other selves, nor can this assumption in any way be demonstrated to be false. It is therefore justifiable to make it. On the other hand, even should the material particles of physics actually exist (and this seems very doubtful), we could not know of their existence. The scientific method demonstrates this sufficiently. Moreover, if, as that method shows to be extremely probable, the entities of physics are *simply* constructions of sense-data, we cannot conceive a self in terms of these entities; for evidently a self cannot simply be a logical function of sense-data. To sense-data we apply the term 'phenomenal,' *i. e.*, 'presented to a subject,' thereby implying that we realize the fundamental distinction in kind between the subject and the sense-data or phenomena which it perceives. It is impossible, therefore, to imagine that we ourselves can be analyzed into sense-data; in fact, the supposition involves a contradiction in terms, for sense-data are 'given' or 'presented'

[1] See Section V below.

by the very meaning of the term, and it is the self to whom they are presented.

Admitting, then, the existence of at least some selves, is it possible to explain the facts of experience entirely in terms of selves? As a matter of fact, the explanation has already been partially accomplished, and modern pluralists are engaged in applying it to the remaining difficulties. While at the present stage there seems to be no reason for supposing their attempts will be unsuccessful, many pluralists are of opinion that the bare hypothesis as stated above is incomplete. It seems probable that, for the complete solution of the problem, pluralism must be supplemented by some form of Theism.[1] However that may be, the pluralistic hypothesis is admissible until disproved by fact, and therefore it is justifiable to continue to apply it as far as possible.

It is no part of our present purpose to analyze in detail the application of pluralism to the solution of philosophic problems, but the type of method adopted may be briefly illustrated by a consideration of its application to the case of what is commonly called 'inorganic matter.' The chief feature of that class of sense-data from which we construct the concept of inorganic matter, is the uniformity of the sequences manifested therein. There seems to be no expression of individuality observable. The opposite is true of selves. A self is essentially individual, for it is unique. In fact it is only to a self and its particular experience that we can correctly apply the term 'individual.' Animals manifest individuality and we have every reason of analogy to regard them as selves or subjects of experience. The animal merges insensibly into the vegetable world, and there is little difficulty in applying the pluralistic hypothesis to the latter. Now one fundamental characteristic of mind is its plastic retentiveness, which is manifested in the formation of habits. The lower we go in the scale of life, the more habit do we find, and the less spontaneity. The latter, however, and consequently individuality, never entirely disappear. Remembering how narrow is the line dividing the organic from the inorganic, we are led to

[1] J. Ward, *e. g.*, *Pluralism and Theism.*

regard the latter as constituted by individual agents of extremely inferior mentality, whose behavior is therefore sufficiently habitual to admit, *for the most part*, of description in general terms. The reason for the apparent absence of individuality is that we are here probably dealing with individuals in bulk, so that our results are statistical. These results will be even more uniform than the majority of statistics, on account of the nature of the individuals concerned; but there is no reason to suppose that, if we could observe the behavior of one of these individuals in isolation, we should be unable to observe any traces of uniqueness. The above is but a broad outline of the pluralist argument as applied to the inorganic world, and if the question is examined in greater detail, many other reasons can be adduced which show that there is nothing incompatible with experience in this view of apparently lifeless matter.

The first stage in the growth of a pluralistic philosophy is analytic. It consists in the analysis of experience, perceptual and conceptual, and of those particular concepts which we apply to experience under the name of categories. The investigation leads in all cases to results which suggest a pluralistic hypothesis, although they do not lead to it as a strict logical necessity. The second stage in the process consists in the application of the hypothesis to the solution of the particular problems of existence. In the first stage the investigation takes the form, for the most part, of an analysis of the *growth* of individual experience, and of the transition by intersubjective intercourse to universal conceptual experience. Hence the method employed is genetic. In this way we determine the process by which we have arrived at such knowledge as that of space and time, for example, and at such conceptions as Causality, Quality, and Relation. Thus abundant light cannot fail to be shed on the time-honored problems associated with these names.

Pluralism is an hypothesis, and it therefore stands under the universal limitations inherent in the nature of hypothesis in general. For a just appreciation of values, then, it is necessary that these li nitations should be precisely stated and clearly borne in mind.

We usually look upon hypotheses as put forward to 'explain' certain groups of facts. Let the case of physical science serve as an illustration. As a rule, men of science are content to dismiss the data of sense as merely 'subjective.' They look upon them as due to the action of certain hypothetical entities on our senses. The function of such an hypothesis, however, is not really explanatory, but simply an attempt to describe the facts of existence in the simplest possible terms. The immediate facts of existence are confused, complex, and loosely ordered. Any attempt to deal with them as they stand, for the purpose of calculated interference in the course of events, will be foredoomed to hopeless failure. Consequently, physics introduces such conceptions as those of a material particle and a luminiferous ether, in order to unify and coördinate the phenomena, so as to render them amenable to mathematical treatment.

The majority of hypotheses are merely descriptive in this way. They are attempts to describe the facts of existence in simpler terms than the immediately given data. It might therefore be urged that pluralism is also a merely descriptive hypothesis, the 'explanation' being simply taken back one step, and expressed in terms of different things. Yet it is just in this difference of terms that the root of the essential disparity between pluralism and other hypotheses is to be found. It implies a difference of type. For pluralism is expressed in terms of active selves. We all *realize* what it is to be active—it is just living and doing. We all *realize* what a self is. This realization is far more than knowledge in the ordinary sense. It is something of what the older thinkers were trying to express when they said that for perfect knowledge, knower and known must be one. It is a unique, supremely intimate fact, and therefore stands in a class of its own. It cannot be subsumed under one of the three types of knowledge proper—knowledge by acquaintance, knowledge by description, and knowledge of logical truths.[1] It is this last fact which so often causes the realization of the nature and existence of self to be passed by, with the inevitable consequence that doubt is expressed of the existence of self at all.

[1] Evidently the subject, or knower, cannot be an object of knowledge.

With a clearer view of the facts, such doubt is seen to be inherently meaningless. Moreover, it follows from the above that pluralism, being expressed in terms of active selves, is truly explanatory *for such active selves, i. e.*, for us. It thus differs in type from all hypotheses which are not expressed in such terms.

Although pluralism differs in type from other hypotheses, it is yet bound by certain limitations common to all hypotheses. An hypothesis passes from necessarily partial observations of a system to a description of the system as a whole in space and time, and is therefore inevitably fallible unless the system be assumed capable of complete description in general terms. Any system, however, comprising subjects of experience, is quite incapable of being so described, for the subjects, and the experience of each, are essentially individual and unique.

It follows from the above that, as we have at our disposal but limited observations of the world, it would be possible to find an infinite number of hypotheses descriptive of the world, which would sufficiently fit the narrow range of the observed facts. We could not form a unique and infallible hypothesis[1] unless we knew all the facts, past, present and future, and then it would no longer be an hypothesis, but a mere recital of those facts.

The fallibility of hypothesis is sufficiently illustrated by one fact alone, namely, that we have no reason at all to assume that laws which have held in the past will continue to hold in the future, unless we also assume some principle, such as that of induction, which depends on *a priori* principles of probability. Hence, though we may know an hypothesis to be false if it is contradicted by any fact, we can never certainly know it to be true. All that can be said is that it is more or less probable, the degree of probability depending on its applicability to the facts observed up to that time. Thus any final beliefs as to the constitution of the universe cannot depend on knowledge alone, but must be based on faith.

In selecting an hypothesis, then, we have a very great range of choice, for *no* hypothesis is ruled out of court till it fail to account for some fact, or rather, till it be definitely disproved by

[1] *I. e.*, we could not be sure that it was infallible nor that it was the *only* hypothesis which would fit the facts.

some fact. This being so, we naturally turn, in the first instance, to hypotheses which are truly explanatory. For our purposes an explanatory hypothesis may be formally defined as 'an account of a system which can be formulated symbolically in terms of active subjects of experience.' The conceptual formula as such, which sets forth the hypothesis, is of course, descriptive, but its concrete meaning is explanatory in a sense in which that of a formula in terms of objective things is not.

It should be noted with reference to the type of result likely to be obtained from the scientific as opposed to the genetic method, that logical constructions of sense-data can never give a self. Hence, as selves certainly exist, no hypothesis in such terms can explain the universe nor even completely describe it. Pluralism, on the other hand, is not only explanatory, but it also complies with the condition demanded by Occam's razor. Far from multiplying entities, it is expressed in terms of entities certain examples of which we know to exist, and which any hypothesis must therefore take into account.

IV. *Points of Conflict between Pluralism and the 'New Realism.'* —The supporters of the new scientific method hold that pluralism cannot be true because the conceptions on which it is based conflict with their results, and are therefore invalid. An analysis of the problem seems to show that the supposed conflict springs in the first instance from two main points of difference. These are the existence of the self, and the true meaning and validity of the categories of experience, particularly those of continuity and causality.

The scientific method lays stress on the objective side of experience. It investigates the object of experience, not in relation to the subject, but considered *per se*, and therefore in abstraction from the subject. It considers what meaning certain concepts must have if they are to be valid when applied to the object of experience thus isolated from the subject. Hence it fails to take account of the fact that the growth of experience consists in action and reaction between subject and object, manifested in an ever-increasing complexity and differentiation of the object, and

that the latter is therefore determined in part by the activity of the subject. This activity is a fundamental realization,[1] but when considered from the conceptual standpoint of Empirical Psychology, it appears to consist essentially in attention. If, then, we are fully to realize the concrete meaning of the concepts we apply to experience, we must examine them in the light of this mutual interaction of subject and object.

The consideration of the subject implied in experience brings in its train certain ethical and teleological concepts which are meaningless except in application to such a subject. The failure to take the existence of the subject fully into account in the analysis of experience, thus leads to the inevitable result that certain most important characteristics of existence are entirely overlooked or regarded as invalid conceptions. It is owing to their preoccupation with the objective side of experience that the New Realists look upon the notion of teleology, for example, with such doubt and suspicion. Bertrand Russell[2] regards it as possible for a system to be both mechanical and teleological, according to the point of view. Such a supposition evidently entirely invalidates the generally accepted notion of teleology, and we shall therefore examine it hereafter.

When concepts applied to experience are analyzed genetically, the meaning of them as thus determined is invariably found to contain more, and to strike deeper, than that determined by the scientific method. The former seems to throw considerably more light on the true nature of existence than the latter. This is illustrated particularly clearly in the case of causality.

Experience is a unity, comprising a duality of subject and object, and we cannot fail to get more and more out of touch with its true inwardness, if we lay stress on one side of it to the exclusion of the other; for all separation of subject from object, though necessary to a certain extent for purposes of analysis, is to that extent artificial. The problem of continuity brings out most clearly, perhaps, the difficulties raised by this artificial separation.

[1] See p. 250 below, note on 'activity.'

[2] "On the Notion of Cause," *Scientia*, Vol. XIII (1913), N. XXIX, 3, p. 333.

V. *The Existence of the Self.*—In the course of his analysis of our knowledge of the external world, Bertrand Russell makes the assertion that the (bare) self, if it exists at all, is an inference.[1] This sentence defines very precisely the general attitude of the new realists. It is somewhat as follows: In any case, the reasons we may have for stating that the self exists can only be arrived at by inference, but even then, it is doubtful whether the inference can be made.

As already pointed out, it appears that any such doubt of the existence of self is really meaningless. In the first place, from what may be called the concrete point of view, we certainly cannot *know* the self from the very nature of the case; but we have instead the central and unique fact of the 'realization' of our own existence. Evidently no general term can adequately express the full nature of a fact so essentially particular; but this is no reason for ignoring the fact—perhaps rather the reverse. As will shortly be seen, we have in addition abundant data from which we can infer the existence of self, but the concrete realization of its existence is of infinitely greater importance.

From the more abstract point of view, psychology traces the gradual growth of the *concept* of self, from the primitive idea of the body-self, through ever more refined and spiritual stages. Eventually we seem to be coming in sight of the bare active subject of experience, as distinguished from the empirical self in all its phases. By proceeding in this way, however, we can never quite reach the subject of experience (though we may come very near it), for we are here dealing with self as conceived, *i. e.*, as an object of *knowledge;* whereas the concrete self is the *knower*. Knowing is a relation between two entities, so that evidently the subject cannot know itself. It simply realizes its own existence, though the formulation in conceptual symbols of the fact of this realization, is itself a piece of knowledge. As Kant pointed out, it follows from the foregoing that the only course open to epistemology is to *postulate* the existence of the pure Ego, or subject of experience, as a regulative idea.

Although we cannot, by continually modifying, and, as it were,

[1] *Knowledge of External World*, Lect. III, p. 74.

*centralizing* the concept of self, arrive at the concrete subject of experience, we may yet infer its existence. The inference is necessarily immediate, for all such terms as 'knowledge,' 'experience,' 'perception,' etc., imply the existence of a subject in their very meaning. Without it they have no significance whatever. In fact, all psychological discussion inevitably assumes the existence of an individual subject. We cannot speak simply of the existence of thoughts and feelings. There is always the implication of 'one who feels and thinks.' Knowledge and consciousness only possess meaning at all in so far as they are referred to something knowing and conscious of something else.[1] Experience implies presentation of an object to a subject, thus comprising a duality in a unity. The existence of the subject in this duality is just as much a fact as the existence of the object. The *Cogito ergo sum* of Descartes was one of the most conclusive inferences ever stated.

Some philosophers, following Huxley, have regarded the self as being merely the series of mental phenomena constituting the individual mind. This supposition implies the existence of the very entity which it is attempting to dispose of. For, in the first place, what is meant by the 'individual mind'? Why should the series be individual at all? What gives it its essential characteristic of unity? The fact of presentation to an individual subject is the only possible reason. Moreover, the very word 'phenomenon' implies appearance or presentation to something —to what we call the subject. It is useless to state, as some have done, that even if this be so, the subject may still be merely a logical construction, for this is to lose sight of the fact that the agent which constructs can be no other than that subject which is supposed to be a logical abstraction. Finally, it should be noted that the exponents of the new scientific method continually use the word 'sense-data.' By so doing, they not only assert the existence of experience, but they also, by the very term, tacitly acknowledge that one element of experience is something which is 'given.' But if there be something given, there must be something else to which it is given.

[1] See also J. Ward, Art. "Psychology," Ency. Britt.

To sum up: The existence of experience is a fact, and as such, cannot significantly be doubted. But experience consists essentially in the presentation of an object to a subject, and has no meaning which does not involve the existence of both the latter. The existence of the subject being once granted, propositions can be asserted concerning it. These constitute pieces of knowledge of a kind which has been termed 'knowledge by description.' Such knowledge is fundamentally distinct from that concrete realization of our own existence, which can in no sense be termed knowledge in itself, but which is, for us, the central and most abiding fact of all.

The existence of at least one self being granted, we proceed to assume the existence of other selves. This assumption is in accordance with the pluralistic hypothesis and is justifiable, for it in no way conflicts with the facts. It cannot be proved by the latter, however, so that it *is* an assumption; but it must be remembered that no philosophy can proceed without it. Solipsism is logically irrefutable, but quite barren. A man who is not a solipsist can prove a solipsist to be wrong to his own satisfaction, for he knows that *he* exists; but he cannot prove to the solipsist himself that he is wrong. To all such attempts, the latter simply replies that the whole thing is merely part of a particularly vivid dream of his own. On the other hand, solipsism is equally unable to prove its case, so that we are at liberty to assume the existence of other people. This assumption is a most valuable one, for it at once opens to us an immense fresh store of knowledge by description, in addition to the knowledge we have through our own immediate sense-experience.

VI. *Continuity.*—Turning to the objective side of experience, we find in what is called the 'continuity' of experience, a source of difficulty which has been keenly realized by philosophers of all periods. The new realists claim to have disposed of the difficulties by means of their new scientific method, but the sort of continuity they are led to, is not the sort of continuity we find in experience, although, for most purposes, it may represent it adequately enough.

An examination of the disputes which have always centered round this question of continuity renders it clear that they are almost invariably rooted in the ambiguity of the term. Analysis shows that it is used with two very different meanings. There is first of all what might be called the older, common-sense meaning; and then the modern, mathematical use of the term. The first may be best illustrated by considering the conception of a continuous material substance. Such a conception has appeared at various times and in various connections in physical science, as opposed to the atomic view of material substance. A continuous substance is structureless in the sense that it is not built up by the aggregation of a number of small elementary substances. Such a substance, though it seems paradoxical at first sight, would be indivisible; for the separation of an ordinary substance into two parts consists in overcoming the mutual forces between certain of its elementary particles. But in the case of our so-called 'continuous' substance, where there *are* no elementary particles, a moment's thought suffices to show that the operation of division could not actually be performed at all—all of which simply comes to this, that in such a case, when we say that our substance is continuous, we really mean that it is *one*—not relatively, but absolutely one and indivisible. In fact, the use of the word 'continuous' in this way is both arbitrary and unnecessary. Such continuity is just unity. Nothing more nor less than this is meant by the continuity of experience. The individual experience is an indivisible unity. The use of all such words as 'interpenetration' is simply the groping after the expression of that one fact—experience is one and indivisible. And, after all, what more do we need? There is no great difficulty in the conception of such a unity. It is *one*, because it is presented to *one* subject. The introduction of the additional notion of continuity is entirely gratuitous, and at once raises fresh and irrelevant difficulties. Much dispute and confusion would be avoided, if people would stop talking about the continuity of experience, and simply speak of its unity.

The modern tendency is rightly to restrict and make definite the use of the word 'continuity,' by employing it with one mean-

ing only, viz., that of mathematical continuity. In this sense continuity is essentially a property of ordered series. The new realists suppose continuity of this kind to be typical of experience. Mr. Russell,[1] for example, asserts that the particular degree of continuity known as 'compactness' is sufficient to describe the continuity of experience. A compact series is one in which to any term there is no *next* term, that is one in which, if any two terms be selected, it is possible to find other terms between them. The number of terms of such a series is, of course, infinite. The view we are considering regards the objective side of experience as a compact series of sense-data.

The correctness or falsity of the view just stated hinges entirely upon the fact that a series consists of *terms*, and that however many terms there are, and of whatever magnitude they may be, they are discrete, each existing *per se*. Hence, if sense-data form a compact series, we must consider them to consist in an infinite number of *separate* members, each of indefinitely short duration. So much seems to be admitted by Mr. Russell. Yet again the point is overlooked that sense-data, though absolute and objective for the individual to whom they are presented, are relative and subjective from a universal standpoint. The separation of subject and object is still artificial. All that the theory under consideration has any right to assert is that the introduction of the notion of compact series is one of the most adequate ways of dealing with the unique continuity of experience considered objectively in abstraction. No doubt results based on analysis on these lines will be sensibly accurate when tested by experience; but this simply follows from the fact that the original constructions of compact series are sensibly accurate to the same order. It cannot be true, however, that experience is really composed in part of such a series of sense-data, for, as we have seen, the members of a compact series, in spite of their infinitude, are each a definite separate entity. The question might be raised as to whether such a series could have anything but an abstract existence. For example, we may write down any member of the compact series of rational fractions, but it is difficult to see how

[1] *Op. cit.*, Lect. V.

the complete series could exist concretely. Apart from this, however, we cannot look upon sense-experience as a compact series, for its continuity really consists in its unity. The *totum objectivum* of perceptual experience is one and indivisible, for it is presented to one subject. Hence if we analyze the former into a number of separate entities, we imply that the latter is also a series of separate existences. Again the appeal must be to concrete experience. The subject is one, persisting through change. This much we realize, though the notion of separate instantaneous existences may not be a *logically* impossible one. Moreover, it should be noted that the object of experience is in part determined by the activity of the subject. Again it is difficult to see how this could be so if there were sense-data existing independently as separate entities, and merely passively perceived in appropriate conditions. It would probably be replied that all that can be said is that certain motor sensations are followed by changes in the other sense-data, the motor sensations themselves being part of the data. But this assertion ignores the fact that the ground of the motor sensations is the activity of the subject.

The source of the whole difficulty, then, lies in the distinction between perceptual experience and its symbolic representation. Individual experience is unique, particular, and incommunicable. In describing it symbolically, therefore, our description cannot be entirely adequate, for it is conceptual, and the conceptual must always contain some element of the general. Hence the essential privacy of concrete individual experience cannot be comprehended in a descriptive formula. Moreover, in reflecting on experience and its implications, we are bound to attack it piecemeal, and to analyze it by abstraction, on account of our intellectual limitations. This inevitably entails a certain artificial immobilizing and dissection of experience, which we effect by means of concepts. Experience is dynamic and continuous, but concepts are static and discrete, even though they be concepts of things which are themselves dynamic.

The above point is illustrated particularly clearly by what Mr. Russell calls the *logical* answer[1] to the objections raised

[1] *Op. cit.*, Lect. V, p. 150.

against the application of the mathematical theory of continuity to experience. Change, he urges, is a fact. But change involves relations, and relations are fundamental. Thus change demands analysis. Now we may grant that relations are fundamental, but what exactly does this mean? Simply that so soon as we come to analyze experience reflectively in abstraction, we find that we cannot proceed at all without the concept of what we call 'relation,' in addition to the concept of what we call 'thing.' Yet in the actual concrete individual experience there is no question of 'relation' or 'thing.' There is just a presented whole perceived by the subject, a whole which simply exists and is given *as* a whole. For example, let us try and imagine what may be called an 'instantaneous' section of experience. At any instant we perceive in fact but one object, the presented whole. No spatial series of separate parts (however great in number and however small in magnitude the latter may be) enters into the actual experience itself. The same is the case when we include time within our purview, and consider individual experience as a whole. There is here no temporal series of sense-data. Experience in its actuality is *not* a series. Considered in its entirety (which is the only adequate way of considering it) it is simply 'subject perceives object.' The object is an individual whole, and therefore, by its very uniqueness, cannot be characterized, *as such*, by such a general term as *relation*, for the latter implies the existence of more than one distinct individual. It is only when we come to reflect upon experience that we are bound to consider it piecemeal, and to introduce such general terms as 'parts' and 'relations.' To whatever closeness we may in this way approximate to the actual experience, we can never entirely get rid of that element of the general, which necessarily renders inadequate the conception of what is essentially particular.

Mr. Russell makes the further statement,[1] that the type of objection we have raised against regarding the continuity of experience as being of a mathematical kind is a particular example of a more general doctrine, which, broadly stated, amounts to saying that there can never be two facts concerning the same

[1] *Op. cit.*, Lect. V, p. 150.

thing. He points out that the latter is evidently untrue. This may certainly be granted in general; but how does it apply to the particular thing we are examining, viz., concrete individual experience? Strictly speaking, there *is* only one fact about such an experience in its actuality, which fact may be stated in the proposition 'It exists.' The 'it' of this proposition is the *totum objectivum*, or presented whole, of individual experience. Its actual nature is only realized fully by the particular perceiving subject. In actual perception, before reflection follows, it is perceived as an indivisible unity. It is often called the 'presentational continuum,' but it is more correct to call it the 'presentational unity.' All other propositions asserting facts (so-called) about experience, are simply attempts to express as adequately as possible in conceptual form the nature of private experience. They are inadequate, for the proposition expressing the sole and particular fact of the existence of the perceived object in its peculiar intimacy and uniqueness realizable only by the percipient, is replaced by a number of propositions, expressing our attempts to deal, by general characterizations, with something which is essentially particular. The attempts furnish us, for the most part, with a sufficient approximation, but in dealing with ultimate questions, it is of the first importance to remember that of necessity they *are* but approximations.

It is evident, then, that the results of analysis by the scientific method cannot be fully adequate. This does not detract from the value of the former in practice, so far as it goes, for it is the most adequate conceptual method of dealing with experience. We could have no better conceptual way of representing what is called the 'continuity' of experience than by mathematical continuity. But this representation must not be regarded as a final complete solution, for the reasons we have given. It is necessary and sufficient for purposes of calculation, and for the establishment of the validity of certain physical conceptions, but the final solution of the difficulties which have been raised, lies in realizing that the so-called 'continuity' of experience is actually its *unity*, being, as it is, the experience of *one* subject.

What exactly is meant by 'one' thing? For example, we talk

of a chair or a table as being one object; but the physicist regards the chair or the table as made up of a number of other single objects, viz., molecules. The molecules again, are made up of atoms, and so on. It appears that there are two distinct meanings to be attached to the word 'one' when applied to things. The first is subjective or teleological, the second objective and absolute.[1] It is in the former sense that a chair or a table is one object. In other words, we speak of a thing as being one, when it functions as one in relation to our purposes, or to the purposes of other subjects of experience. On the other hand, we can only regard a thing as being one in the absolute sense, when it is a true individual. Where do we find such individuals? Evidently physics does not deal with them. Its molecules and atoms are not unique. Subjects and their experiences are the only true individuals. The self may be considered an absolute unit, for it is unique and indivisible. For this reason alone, pluralism, being expressed in terms of selves, would have an advantage over any description of existence in terms of sense-data, for the latter are, as we have seen, purely artificial units. Finally, it should be pointed out that the consideration of the meaning to be attached to the concept of 'one thing' is in no way connected with the meaning of the *number* 'one.'

VII. *Causality.*—Among the chief categories which are commonly regarded as applicable to experience, is the category of causality. This category has been a source of difficulty and confusion owing to the unfortunate vagueness and ambiguity with which the term 'causality' is frequently used, especially in its scientific application. Analysis by the new scientific method has done much to clear up this confusion.[2] As a result of this analysis, it is pointed out that with regard to the objective side of experience, we can only say that the sequences observed in it are characterized by sufficient similarity to admit of more or less adequate description in general terms. Hence we can

[1] We might, perhaps, distinguish a third use of the phrase 'one thing,' viz., as applied to a body which *moves as a unit.* [See Perry's *Present Philosophical Tendencies*, p. 52].

[2] B. Russell, *op. cit.*, Lect. VIII.

enunciate certain propositions in virtue of which the occurrence of some events can be inferred from the occurrence of other events. To these propositions we may give the name of 'causal laws.' Therefore, from the purely scientific point of view, we should go no further than the mere statement that such causal laws do subsist. This is evidently true, for if we take objective experience *as it stands*, there is simply the fact that certain sense-data are invariably followed by certain other sense-data. The sequence contains in itself neither hint as to the reason for this invariance, nor warrant that it will continue to hold in the future. Scientific observation alone, then, can do nothing more than formulate descriptions of these sequences, together with the statement that it seems *probable* that they will continue to hold in the future as they have invariably done in the past. From this point of view, any further extension of the principle of causality is both unnecessary and unjustifiable.

If the exponents of the scientific method were content to stop at this point all would be well; but they go further, and assert that the meaning of causality considered above is the only valid one. Yet the roots of the concept of causality go far deeper than this. If we trace the development of this concept during the growth of experience, we find that it is inseparably bound up with the notion of efficiency or activity. We ourselves, as active agents, initiate changes in our environment, and we realize our activity to be the ground of which these changes are the consequence. Many of the sequences which occur in experience independently of us, we can reproduce at will. Thus we arrive at the conception of *efficient* causality as distinct from merely descriptive causal laws, ourselves being efficient, and, for the most part, self-determined causes. Inevitably we come instinctively to consider efficient causality as the ground of those sequences which we observe in experience. Logically, as we have seen, mere observation only gives us the right to assert that certain sequences *do* recur, and to state the fact in a general proposition. Seeing, however, that we actually realize self-activity to be the ground of many sequences—sequences which we can always render essentially similar—there is no reason why

we should not adopt, at any rate hypothetically, the view that all observed sequences have their ground in the activity of experiencing subjects. In this way, causality, as applied to perceptual experience, comes to have a definite concrete meaning, namely, the efficiency of active individuals. No doubt the concept is anthropomorphic, but that simply means that it is based on the nature of the subject, as distinguished from the object, of experience. Hence we realize that efficient causality certainly exists, and we are therefore justified in attempting to find a satisfactory interpretation of the sequences which occur objectively in experience, by the application to them of this concept of efficiency.

Activity is fundamental. Everyone realizes what it is to be active. Yet certain modern representatives of the traditional idealist school,[1] dismiss activity as pure illusion. It is difficult to see what the assertion 'All activity is illusion' can possibly mean, if it mean anything at all. When I think or do, I say that I am active. All that is meant by activity is a living and doing. If the idealist asserts that living and doing are illusions, the reply is simply that the illusion at any rate exists, and therefore it is the illusion itself that we mean by activity, if it be an illusion. There is no meaning at all in the term 'illusion' as applied to direct experience. It is only when wrong judgments are based on experience that illusion can be said to exist. When we talk of being active, it is simply a way of specifying a certain fact. We may draw wrong conclusions from the fact, and in that case

[1] *E. g.*, F. H. Bradley in *Appearance and Reality*. The New Realists also reject activity (*cf.* R. B. Perry in *Present Philosophical Tendencies*, pp. 70, 99 and elsewhere). It is stated that all that is perceived is certain muscular sensations, etc., but no 'power.' This is not denied, but the fact (too often overlooked), which lies at the root of the question, is that activity is not an object of perception or knowledge at all. It is not presented to the subject, for it is the subject who *is* active. But we realize that we are active, although our activity is not *presented* to us. The realists and others might just as well deny the existence of perception, because we only find certain things given, of which our own 'perceptivity' is not one. We do not perceive our perceptivity—it is not an object of knowledge—but we realize that we perceive things, and the proposition asserting this fact is of course a piece of knowledge (by description, not perception). Hence there is no more ground for denying the existence of activity in general, than for denying the existence of perception, in which the subject is active in a particular way.

it is correct to say that we are the victims of illusion. Yet, however that may be, the fact remains.

Returning to the new realists, we find then that they deny the validity of the concept of efficient causality. They maintain that the only meaning which causality can have is that which we have seen it possesses in descriptive science, namely, that in objective experience certain essentially similar sequences recur, which fact is expressed in a number of propositions (one for each set of similar sequences) termed 'causal laws.' This they consider is all that can be said on the subject. As an example of a causal law the law of gravitation is frequently cited.[1] The latter contains no reference to 'cause' or 'effect.' The expression of the law as applied to a material system, simply takes the form of certain differential equations. From these it follows that the configuration of the system at any given instant is a function of that instant, and of the configuration at two given instants. This is true enough, but the fact remains that such differential equations, and the function which is their integral, are purely descriptive. They contain no hint as to 'how' and 'wherefore.' They simply tell us what *does* occur, without suggestions *why* it occurs. Moreover, there is still the question as to what determines the particular *form* of the equations from which the configuration at any instant can be deduced. It is not determined by logic, for logic and mathematics can give no answer to the question. As already suggested, the ground of the motions of such a system lies in activity. The particular nature of the motion, with its corresponding typical descriptive function, is determined by the particular type of activity of the agents concerned. The fact that our differential equations are shown by experience to hold for past and future as well as for present, simply means that the activities of certain individuals are sufficiently habitual to admit almost completely of description in general terms. We have seen that the introduction of the notion of active subjects does more than shift the descriptive formula one step further back, for it provides an explanation as opposed to a mere description.

[1] See, *e. g.*, B. Russell, "On the Notion of Cause," *Scientia*, p. 327. [See p. 239 above, footnote.]

Mr. Bertrand Russell[1] gives the following definition in this connection. A system is said to be 'deterministic' when, given certain data, $e_1$, $e_2$ . . . $e_n$, at times, $t_1$, $t_2$ . . . $t_n$ respectively, concerning this system, if $E_t$ is the state of the system at any time $t$, there is a functional relation of the form

$$E_t = f\,(e_1, t_1, e_2, t_2 \ldots, e_n, t_n, t).$$

The system will be 'deterministic' throughout a given period "if $t$, in the above formula, may be any time within that period, though outside that period the formula may be no longer true."

Mr. Russell goes on to consider the possibility that such a formula may be applicable to the Universe, in which case the latter would be a deterministic system. Leaving aside for the moment the general question as to whether the Universe is in any sense deterministic or not, and if so in what sense, let us consider what determinism, in the above use of the term, implies. In the first place it is evident that the given functional relation is equivalent to a description in general terms. Now the fundamental characteristic of the Universe is the particularity of its facts. The individuals which, at least in part, compose it, and their experiences, are essentially unique, and therefore are in no way susceptible to description in general terms. This fact is of the first importance when we are endeavoring to form a final conception of the nature of the Universe and not simply attempting to formulate a partially adequate general description of certain aspects of it. If they are to take account of the uniqueness in the Universe, the data contained in our functional relation would have to comprise every individual in the Universe, and the experience of each at every instant of his history, were this possible in a relation of the given type. It is true that Mr. Russell admits that the relation may be of strictly infinite complexity, but if it must necessarily be of the order of complexity we have indicated, it would simply be a recital of the whole history of the Universe. That is, it would have to contain explicitly all the information which it might have been hoped to contain implicitly. There is, in fact, no room in it for a variable at all, for it contains

[1] "Notion of Cause," *Scientia*, pp. 331 ff.

all values of such a possible variable in its data. It is therefore clear that not only is such a functional relation as was originally described utterly valueless and incapable of affording any final information about the Universe, but that it cannot in any sense be significantly applied to the Universe at all; for as soon as we attempt thus to apply it, it ceases to be such a relation, losing all meaning with the disappearance of the variables. If, as we have suggested, the Universe is made up of active individuals, the reason for this result is clear; for no individual can be completely described in general terms, seeing that he is an individual, and consequently his actions cannot be so described.

The data $e_1$, $e_2$ . . . $e_n$ are referred to as 'determinants' of the system, the state of which is defined at any instant by the functional relation given. A 'mechanical' system is then appropriately defined as one having a purely material set of determinants, such as the position at given instants of certain pieces of matter. It is maintained that such a system might equally well be teleological (that is, purposive) or not. But the existence of purposes implies the existence of active individuals such as ourselves. Now we have seen that such a functional relation as defined above cannot exist in any adequate application to a Universe containing unique individual selves. Therefore, if a mechanical system can be described by such a functional relation, as it assuredly can if the terms 'mechanism' and 'matter' have their usual meaning as employed in the physical sciences, it cannot also be a teleological system, namely, one in which actions are purposive. Conversely, for the same reasons, no teleological system can also be mechanical.

It is then urged against the notion of efficient causality that the future determines the present to the same extent as does the past; in other words, cause does not 'compel' effect, in some sense in which effect does not compel cause.[1] But, again, this determination of the present by the future is only logical and descriptive. Even assuming for the moment that certain functional relations actually subsist which are significant as a complete or partial description of such a Universe as ours, there

[1] B. Russell, *Knowledge of External World*, Lect. VIII. p. 220.

is still a difficulty in the way; for although the formulation of the relations may work either way in time, we cannot ignore the *one-directionality* of time in concrete experience. The relations, though symbolic of a dynamic process, are themselves static. They simply assert that on given assumptions such as uniformity, there is *logical* dependence of the present on the future, just as there is logical dependence of the present on the past; but they fail to comprehend concrete experience fully, in that they ignore the actual fact that time progresses in one direction only. Thus, if all that these relations imply were true, there is no reason why the crime should not sometimes follow the punishment which is its due, nor why the determination to build a house should not follow the appearance of that house on the scene. Perhaps the existence of purpose and consequent action leading to realization illustrates best of all the hopelessness of the attempt to replace the notion of causal efficiency by the notion of mere logical dependence. For there is certainly a sense in which it can be said, for example, that the house was built because Jack determined to build it, in which it cannot be said that Jack determined to build the house because the house was built. Moreover, we are indubitably aware that our actions determine their ends in a sense altogether different from that in which the ends determine the actions. This could not be so if the relation between them were purely logical.

The matter may therefore be summed up somewhat as follows: The true meaning which causality has for us is rooted in the realization of our own efficiency, as active individuals. The active individual is the 'cause.' The end which his (generally purposive) activity accomplishes is the 'effect.' The scientific method, however, takes the sequences which occur in experience as they stand and determines what may truly be said of them *per se*. In the first place, it finds that sequences continually recur sufficiently similar in nature to admit of a considerable degree of general characterization. Secondly, it follows that a general proposition may be affirmed with regard to each recurring sequence, whereby the occurrence of one event may be inferred from the occurrence of another event. Thirdly, there is no

guarantee (except the rather doubtful one of probability) that such propositions will continue to hold in the future. Finally, it is seen that we can go no further than this from the objective standpoint of science. It might also be pointed out that, strictly speaking, the term 'causal law' ought not to be applied at all to such propositions as we have been considering. For, in view of the concrete meaning which 'cause' has for us, the word 'causal' implies that the sequences to which the propositions refer, have their ground in the activity of individuals.[1]

The results of this analysis by the scientific method are valuable for the philosopher, for they make clear the exact nature of the assumptions he is making in applying the pluralistic hypothesis to the sequences observed in experience. Still more valuable are they for the physicist, seeing that they warn him from unwarrantable applications of causality, and point out the only valid way, from the scientific (and therefore descriptive) point of view, of looking upon the succession of phenomena with which he deals. There is no doubt that physicists of all times have been strongly influenced by the notion of causality based on subjective activity. One fact alone is sufficient to show this, namely, the curious reluctance which has always been shown to accept the idea of action at a distance. Attempts are invariably made to reduce everything to terms of contact action. The reason is that our own interference with the environment is conditioned by the contact of our bodies with other bodies. Had we been endowed with powers of levitation and removal without contact, the notion of action at a distance would probably have been adopted as a matter of course.

Thus far, and in this application, we may recognize the truth and value of the results due to analysis by the scientific method. Pluralism, on the other hand, approaches the question in a different way, and with a different purpose in view. It is concerned not simply with the phenomena as such, but with an explanation of them which shall satisfy such beings as we are. On the basis of our own existence as efficient individuals, and of the fact that

[1] If this implication is granted, however, the term 'causal law' is of course appropriate.

sequences observed independently of our activity can often be essentially reproduced by that activity, it proceeds to explain all sequences by the activity of individuals. This, of course, it is required to do if its hypothesis is to hold, and this it is successful in doing while no facts can be brought forward to disprove its case.

VIII. *Other Categories of Experience.*—Although the consideration of continuity and causality brings out most clearly, perhaps, the distinction between the aim, method, and scope of pluralism and the new scientific method respectively, incidentally making clear the value to be attached to the criticism of the former by the latter, it is of great importance to examine the other categories of experience if a clear conception is to be framed of the basis on which pluralism rests. The attention may be directed in the first place to the category of Substance and Attribute. A review of the classical attempts to deal with the notion of substance makes it clear that the problem resolves itself into an endeavor to reconcile the principles of permanence and change. Heraclitus, who was the first to bring out more or less plainly the nature of the difficulties involved, held that only change is permanent; but closer examination shows that, with any significant meaning which can be attached to the term 'change,' the truth of the matter is that change *implies* permanence. For, in the first place, it is apparent on general grounds that if there is a change, there must be a thing which changes, the said thing maintaining its identity throughout the change. Otherwise, there is simply one thing and then another thing, that is, mere succession and not change at all, properly so-called. From the scientific standpoint we certainly do consider mere alteration alone, that is, simply a succession of different presentations. But from the subjective point of view, if I have first *A* and then *B* before me, I can in no significant sense be said to have apprehended a process of change; at most there has been a change in myself, and this, since it is I who have perceived both *A* and *B*, assumes *my* permanence. As a matter of fact, we do only perceive a process of change, as such, at a high level of experience; yet, when we have reached this level, we feel impelled to look for

a permanent basis as a ground of the ceaseless flux of experience, whether it be logically necessary or not.

If we analyze the meaning of a process of change from a conceptual point of view, it would seem to be somewhat as follows: At a given time certain true propositions may be asserted of a given individual. At another given time, certain other true propositions, wholly or partly incompatible with the former set, may be asserted of the same individual. If we consider the propositions as particular values of certain propositional functions, the particular value considered of the argument of these functions remains the same throughout. This is the symbolic counterpart of the fact that the individual considered maintains his identity.

Evidently, from this point of view, it would be difficult, and perhaps impossible, to formulate in words the reconciliation of the principles of permanence and change. The reason for this difficulty is that, conceptually, we necessarily consider experience as a time-series. Let us attempt to estimate the true bearing of this. In the first place an analogy may be of use. We do not consider the identity of an individual at any given time to depend upon his position in space. At a given time, I should not be a different person if I were in London and not in Edinburgh. That is, identity is not conditioned by the spatial series.[1] Why, then, should it be conditioned by the time-series? It would probably be answered that the nature of the individual is different at different instants of the time-series. He develops (or the reverse) in time; and it certainly seems, at any rate *prima facie*, that time is more closely bound up with existence than space. But what is the time-series referred to? Not the conceptual or universal time-series, for that is a mental construction. The private time-series of the individual concerned, then? But his time-knowledge is based on change and the existence of the memory-perspective, which implies maintenance of identity. Hence this line of thought bids fair to end in a vicious circle.

The truth is that we can never entirely resolve the difficulty conceptually for reasons we have considered in another connec-

[1] I cannot, of course, be in two places at once, but that does not mean that I am what I am *because of* my position.

tion, namely, that actual existence is particular and cannot therefore be comprehended in a conceptual formula. The conceptual formulation of the facts, if pressed too far, necessarily gives rise to difficulties which do not admit of complete solution. Nevertheless, it is possible to indicate to a considerable extent a method of viewing the facts which brings us as near as possible to a complete comprehension. In the first place, it is necessary to get rid of the time-bound view of experience. Just as in forming as adequate a conception as possible of the object of experience it is necessary to consider it as an indivisible whole in space and time, so also must the individual subject of experience be regarded as a unity in space and time. In other words, we must try to conceive some such world as the space-time universe of Minkowski. The latter applies his conception to the problems of physical science. In such a universe as he imagines, the entire existence of a physical system is specified by means of three space- and one time-coördinate, and is presented as a whole. In an exactly similar way we must look upon the individual subject as a space-time entity. His existence can only be specified as a whole; it is neither punctual nor instantaneous. From a logical standpoint, the proposition 'He exists' must not be supposed to imply any spatial nor temporal reference; that is, there is no real meaning in the notion of existence at a given point or at a given time, though we may adopt the idea conventionally. The point is brought out still more clearly if we consider non-existential propositions which may be asserted of the individual. In examining this point previously, we pointed out that one set of propositions might be true at one time, and another partly or wholly incompatible set at another time. If, however, the propositions are modified by the insertion of date and place, their truth is independent of space and time. The date and place referred to may be considered as uniquely determined. For example, if they be specified by position in *conceptual* space and time, they will yet be connected by a one-one correlation with the private space and time of each individual. The complete specification of an attribute of an individual, or of a relation of which he is one of the terms, must therefore contain a spatial

and a temporal reference. Hence there will be a set of propositions concerning the individual which will be true once for all. Regarding the propositions as particular values of certain propositional functions, the particular value of the argument of these functions is the individual considered. Since the propositions, however, are not limited as to their truth-value by space nor time, the particular value of the argument cannot be dependent upon space nor time. Thus the individual is a space-time unity.

From this conceptual standpoint, such notions as 'process' and 'development' lose nothing of their meaning nor value, but, like all concepts which refer to matters-of-fact, their inadequacy leads to the difficulties we have been analyzing. Yet although the solution of the problem of identity and change is attended by such difficulty when looked at from an abstract point of view, the concrete solution is more easily realized. The self combines, in a particularly complete way, the principles of identity and change. In spite of change, I realize myself to be the same individual that I once was. Even if we cannot formulate in words, on account of its uniqueness, the exact nature of this reconciliation of change and permanence in the subject of experience, it is, to say the least, almost as satisfactory to realize its existence. This being so, we are encouraged to apply the pluralistic hypothesis by regarding the permanent ground of the changing flux of experience as consisting in individual subjects.

Before considering the notion of 'attribute,' it may be of interest to make a short digression at this point, by referring back to Minkowski's conception of a space-time world and its bearing on philosophy. The conception arose in the first instance out of difficulties similar to those we meet with in analyzing change. Recent researches in physical science have brought to the fore, with increasing insistence, the question as to what meaning, if any, is to be attached to such notions as absolute velocity and absolute position. The controversies to which these problems gave rise culminated in the enunciation of the well-known Principle of Relativity. There are several ways of stating the latter, but each amounts to this: 'Different descriptions of the same system will be given by different observers.' A description

depends on the motion of the observer relative to the system. There is no criterion which may be applied to a set of descriptions, by means of which a single *true* description may be determined. All the descriptions are true. The reason is that if we carry our analysis far enough, we are bound to consider the fact as a whole, namely, not only is there an object, but the object is seen by an observer. Consequently each perception is a different fact, and even admitting the object to be the same, for the purposes of argument, the descriptions, though all true, will be different, for each actually involves the observer and the observation as well as the object observed. Hence physics, which purports to describe things independent of any particular perceiving subject, is compelled in the end to take account of that subject. This is inevitable, seeing that the concepts of physics are constructions based in the first place on individual perceptions. In fact, the principle of relativity, as applied to physical science, is a particular example of the more general philosophic fact that while the experience of the subject is objective and absolute for him, it is subjective and relative from the universal conceptual standpoint.

In considering existence, then, from the conceptual point of view, we are continually brought face to face with its relativity. This is the root of the difficulty in the problem of change. As regards physical science, Minkowski succeeded in transcending the difficulty of relativity by introducing this idea of a space-time world. In this way he not only made clear the source of the trouble, but also indicated how it might be eliminated in analysis. It is simply a question of taking a wider view of existence; and in considering an individual who changes and yet maintains his identity, we shall get rid of the difficulties to a great extent if we proceed on similar lines. In specifying an individual, reference must be considered to be made to a space-time unity. In such a proposition as '*A* went to London on Saturday,' *A* must not be supposed to be specified by any time or place. *A* is a space-time entity whose existence is considered as a whole. The proposition, though it contains a spatial and temporal reference, is asserted of this individual whole, which transcends both space and time.

In the existence of the self, then, the principles of permanence and change are reconciled; therefore the self is a concrete actuality corresponding to the concept of substance. A distinction is sometimes made between substances and Substance. The latter is regarded as some unity which is the ground of all existence. With the questions as to whether such a unity exists, and if so, what is its exact nature, we are not here concerned; but enough has been said to indicate that we can only form a satisfactory idea of such an all-pervading substance, by considering it to possess all the general characteristics of a self or subject of experience. Keeping, however, to the selves which we know to exist, and which we have identified with substances, what meaning ought we to attach to the term 'attribute' as applied to such individuals? In the first place, the term should be strictly limited. In particular, the fact that $A$ stands in a certain relation to $B$ must not be held to constitute an *attribute* of $A$. Propositions assigning atrributes to an individual are of the subject-predicate form. For our purposes, such propositions may be regarded as falling into two main types. These types may be illustrated by the two propositions: 'He is just,' and 'He is French.' The first makes a statement about the nature of the individual to whom it refers. The second, as such, asserts nothing directly about the nature of the individual, but is rather a specification of certain relations in which he stands. It should be noted, however, that this proposition may be held to imply a number of other propositions of the first type, namely, those assigning to the individual the characteristics he shares in common with all Frenchmen.

The term 'attribute' might well be limited to the predicate of propositions of the first type. A brief consideration suffices to show that such propositions invariably imply something about the mode of activity of the individual concerned. For example 'He is just' really means 'He acts justly.' We base our judgments about the individual on observations of his actions. Thus the attributes of the individual are the ways in which he acts. The fundamental proposition about an individual $A$ is '$A$ exists,' which is equivalent to '$A$ acts.' $A$ is a unique particular who

cannot be further specified symbolically. What we call his attributes consist simply in his mode of activity.

Two categories which seem interwoven particularly closely with the fabric of experience are those of Quality and Relation. Quality and attribute are often used as synonymous terms, but to maintain precise definition we may distinguish between them. Just as we have taken the conception of attribute as appropriately applicable to the individual subject of experience, so may we appropriately apply the concept of quality to the object of that experience. For example, the sense-data presented through different organs differ in quality, *e. g.*, sensations of color differ from those of touch. There are also qualitative differences between sense-data presented through the same organ, *e. g.*, red differs from blue. Differences such as those of intensity, for example, are rather quantitative, implying a relation of more or less between the sensations.

It is correct to say that Quality and Relation are fundamental in the object of experience, if the exact implication of the statement is clearly comprehended. In concrete experience, as such, there is no question of quality or relation. There is simply a given indivisible unity. This unity is particular, and can only be referred to by such words as 'it' or 'this.' Its characteristics cannot be specified conceptually with adequacy. We cannot take a single step in analyzing experience, however, without introducing the concepts of quality and relation. It is this which should be meant by the statement that quality and relation are fundamental. They *are* fundamental to the extent that we cannot reflect upon experience at all without introducing them; but into the actual experience as such, they do not enter. This is evident when we remember that quality and relation are general conceptions, whereas experience is essentially particular. All we can say is that when attempting to represent experience conceptually (*so far as it can be thus represented*), by hypothetically considering it to exhibit certain general characteristics,[1] we find that two of the most indispensable of such characteristics are quality and relation.

[1] These are hypothetical in so far as we consider them to be absolutely identical elements in every individual experience.

Failure to realize the foregoing has been a fruitful source of objections levelled at the concepts of quality and relation. For example, consider Mr. Bradley's criticism of the concept of relation[1] on the ground that it implies an indefinite regress, seeing that a relation between terms requires further relations to relate it to its terms, and so on. There would be some point in this criticism if we asserted that the concept of relation adequately represents experience. But, admittedly, such general conceptions as quality and relation cannot adequately comprehend the essentially particular. All that is claimed is that in representing experience as adequately as possible by general characteristics, the introduction of the conception of objects between which certain relations subsist, is, for the most part, perfectly satisfactory for the purpose of calculated prediction and interference in the course of events. No such complication as the introduction of fresh relations between the relation and its terms is needed to carry on the reasoning based on our premises, and this reasoning is justified, so far as it goes, by empirical verification. Thus Mr. Bradley's objection cannot hold good, for we do not suppose our conceptual system of terms and relations to comprehend experience fully, though on the other hand it is sufficiently adequate to describe it and to render possible sufficiently accurate prophecy and successful interference in the course of events. Therefore the objection has no significance as applied to perceptual experience as such, nor can it be urged against our conceptual apparatus; for we construct the latter ourselves, and find it sufficiently competent to perform its task, which is the only significant test.

We may conclude the investigation of the categories of experience by examining two of a somewhat different type from those already considered. They are the categories of Means and End, or Purpose. These categories are only significant in application to a universe containing individual subjects of experience. The categories we have been analyzing are applied in the first place to the object of experience, though the origin of the concept of the category is in some cases subjective, but the cate-

[1] *Vide Appearance and Reality*, 2d ed., Ch. III, pp. 30 ff.

gory of purpose is primarily applicable to the subject of experience, for it is a characterization of activity. It seems probable that all activity is originally purposive, though oft-repeated actions become less and less consciously purposive and more and more reflex and habitual. In the case of those individuals whose nature we realize most clearly, namely, selves at our own level of development, the ground of activity is in most cases evidently purposive, and not purely material in the scientific sense. For in science, 'material' means 'phenomenal,' whereas the ground of our own activity is the very opposite of phenomenal. Certainly phenomena in part determine the purposes which guide the activity, and the latter may itself be limited by material conditions, but the ground of its initiation is subjective or real as opposed to objective or phenomenal.

We may, however, attempt to apply the category of purpose to the ground of what we observe in the object of experience. In such observation we at once notice actions which may be regarded as purposive by analogy with our own. In fact all organic life appears to exhibit this purposive character. We might perhaps describe the activity of an organism in terms of molecular action, that is, in terms of the purely objective constructions of physics, though it is by no means certain that organic activity could even be completely *described* thus. In any case, the description, if complete, could not be general, for every organism is unique. Each would therefore require a separate description. On the other hand, we may explain the organism by the organized collective activity of individuals, thus changing the terms from purely mental constructions to concrete entities whose nature we can all more or less realize.

The fact that organic activity is thus apparently teleological strongly suggests the applicability of the pluralistic hypothesis, at all events to organic matter. We say 'apparently teleological,' for it is not certain that the existence of such teleology can be conclusively proved from a logical point of view. Could it be so proved the fact would be of enormous significance, for pluralism would immediately be verified as regards organic matter, since the existence of purpose implies the existence of experiencing

subjects. However that may be, the attempt to describe organic life in purely physical terms invariably leaves an inexplicable residue of spontaneity, whereas its explanation in terms of individuals differing only in degree from ourselves, is enabled to take the latter fully into account. The pluralistic hypothesis is therefore to that extent justified.

Inorganic matter may be treated by a similar, but somewhat modified, theory. It is analogous to organic species which have become stationary at some period of their evolution. It approaches the lower limit of development. It may be regarded as comprising individuals of an extremely low order of mentality, who therefore exhibit the minimum of spontaneity and the maximum of habit in their reactions. They are thus particularly susceptible of an almost complete description in general terms.

It may be concluded that wherever the category of end or purpose can be successfully applied, so also may the pluralistic hypothesis be applied to the same extent; for the existence of purpose implies the presence of mind, that is, of subjects of experience. We have seen that pluralism is in this way applicable not only to the ground of what we term the organic activity observed in the object of experience, but also (with certain modifications which yet conform to the necessary conditions required by an explanation in terms of mind) to the ground of inorganic activity. The whole field of experience may therefore be covered by pluralism; though we are here concerned, not with the details of the application of that hypothesis, but only with its basis.

IX. *Summary and Conclusion.*—We may end our examination of the two most important tendencies in the trend of modern philosophic thought, by summarizing the results to which we have been led. In this way, the scope and limitations of each school of thought, and the results which each may hope to obtain, will be set out concisely and in brief compass.

The scientific method, as expounded by philosophers of the new realist type, is embodied in an analysis of the object of experience, with a view to ascertaining the form of the facts concerned. With the particular content of any set of facts it is

the business of one of the particular sciences to deal. Philosophy aims at determining form, without reference to any particular content. This philosophic analysis has an important application in the investigation of those concepts which we ordinarily apply to the object of experience, notably the concepts of physical science. Since all observation, avowedly scientific or otherwise, must start from sense-data, and since all verification of calculation based on such observation must lie in an appeal to sense-data, it follows that if our concepts are valid, they must be capable of being exhibited as logical functions of sense-data. The analysis of the concepts, therefore, finally resolves itself into an attempt to build up such constructions of sense-data as may be considered satisfactorily to represent the concepts involved. Hence the method, at any rate in the last stages of its application, is constructive. Nevertheless, its function is evidently to a considerable extent critical. Its field of application consists in the whole of the objective side of experience, and we may willingly admit the claim of its exponents, that it is the only method of obtaining accurate objective scientific knowledge, provided it is clearly recognized that it is subject to two limitations springing from a common root. In the first place, all individual experiences are essentially particular, and the assumption that they exhibit certain general characteristics of form must therefore be regarded as an approximation which is only justified by the fact that it works satisfactorily in practice so long as we are not concerned with a final complete adequacy, and by the still more cogent fact that we are bound to it by our intellectual limitations. In the second place, the units with which the scientific method works are sense-data, and the sense-datum is a purely artificial and conventional unit. The object of experience is an indivisible unity, and (whatever convention we may be compelled to adopt for the purposes of calculation) cannot be considered to consist in a series of members termed 'sense-data,' compact or otherwise.

Keeping in mind these limitations of the method, its critical and constructive value in its own field is apparent. In any case, however, its results are purely descriptive. Its exponents claim that the determination of such results as their method affords is

the only business with which philosophy ought to concern itself.[1] As the opinion of philosophers of all ages, with very few exceptions, has differed widely from this, the claim must be regarded as a purely arbitrary one. In making it, its supporters are proposing their own definition of philosophy, a definition which is not accepted by the majority of philosophers. In addition to the critical investigation of the forms of facts, it is the further business of philosophers to provide an hypothesis which may be said to *explain* those facts to the satisfaction of such beings as ourselves, while remembering that, although no hypothesis can be regarded as infallible, it may be invested with a very high degree of probability, in virtue of its ability to fit the facts already known, and to furnish explanations of those new facts which are constantly forthcoming.

In applying the scientific method to the various problems of philosophy, the new realists have little or nothing to say about the subject of experience. Such brief references as are made imply that the subject, if it exists at all, is merely an inference. But, as we saw, doubt of the existence of the subject is without significance; and, moreover, although the existence of the subject may certainly be inferred—immediately inferred, indeed, from every single fact of experience—there is, in addition, the far more important central and unique fact of our experience, namely, the concrete realization of our own existence.

There are several important consequences of this ignoration of the subject. In the first place, certain problems are considered to be outside the scope of philosophy. Such, for example, are the problems of ethics. Mr. Russell says: "The difference between a good world and a bad one is a difference in the particular characteristics of the particular things that exist in these worlds. It is not a sufficiently abstract difference to come within the province of philosophy."[2] Again this limitation of the philosopher's task is a purely arbitrary one. The terms 'good' and 'bad' are only significant in a universe containing such individuals as ourselves. In their fundamental application they refer to the acts of an individual considered in relation to other individuals.

[1] But see note on p. 236 above.

[2] *Op. cit.*, Lect. I, p. 26.

Judging the individual by his acts, we may conventionally use the terms in reference to the individual himself. Further, we may also apply them to the object of experience considered in relation to the subject, thus introducing the categories of value. The latter, being categories, are necessarily concerned with the form of facts, thus coming within the scope of philosophy even as limited by the new realists. Moreover, even in application to the acts of the individual, the terms 'good' and 'bad' might be taken to refer to the form of the acts. For example, we might define 'good' as the class of all acts which have as their motive the benefit of others. In any case 'good' and 'bad' are general characterizations, and it is the business of philosophy to define their meaning precisely, and to determine their application.

The ignoration of the subject also leads to the consequence that the results of the scientific method are purely descriptive and not explanatory. It does not seek the *ground* of the object of experience. Men have always felt that there must be such a ground, regarding sensations, *per se*, as flimsy and ever-changing manifestations of a more substantial reality. In dealing with sense experience, we find it easy to distinguish and to compare, and generally to construct a complicated network of terms and relations. The facility with which we perform such conceptual gymnastics tends to make us lose sight of the fact that the object of experience, as given, is an indivisible unity. When we turn to the subject, however, the case is different. We come down to bedrock almost at once. Any attempt to analyze the subject into parts and relations, at once shows the futility of regarding it in any other light than as a single unity. In the case of the individual subject, we are therefore concerned with content rather than with form. We find in it a substantiality which the object of experience seems to lack, for we are ourselves individual subjects of experience. We are thus led, with pluralism, to look for the ground of the object of experience in the activity of individuals differing only in degree from ourselves. Our own existence is for us the central fact of the Universe, and any attempt to limit philosophy to enquiry into matters where the existence of the subject may be safely ignored, on the ground

that we must deal only with form and not with content, is both arbitrary and highly unsatisfactory. After all, the facts of the universe are particular, and it surely lies with philosophy to explain those facts so far as it can.

Every philosophic theory must necessarily assume certain logical axioms in accordance with which its reasoning is to be carried on. It is one of the principal tasks of modern logic to reduce such axioms to a minimum. Taking these principles of reasoning for granted, the theory will proceed to start from certain definite facts as data. The more incontrovertible and immediate the facts, and the more fully realizable, the more satisfactory is the theory likely to prove. Pluralism starts from the existence of the self. It makes the assumption of the existence of other selves. Thus it is based on the existence of entities at least one example of which we know to exist, and whose nature we actually realize. It is therefore superior at the outset to theories which start from entities such as sense-data that are objective for the individual. For, in the first place, all such objects are purely artificial units, whether they be sense-data, or the constructions of sense-data which constitute the units of the world of physics. On the other hand, a self is a true unit, a true individual. In the second place, we realize what a self *is*. We *perceive* a sense-datum, but we cannot realize what it *is*, in itself. Moreover, there is the further point that selves cannot be resolved into sense-data, whereas it may be possible to explain sense-data in terms of selves.

The next step in the development of pluralism is the analysis of the growth of the experience of the individual subject by the genetic method. It is not sufficient to enquire what certain concepts *ought* to mean, but also what they do actually mean for us, and how they come to acquire that meaning. If we proceed on these lines, particularly with reference to the chief categories of experience, we arrive at results which in each case, while not leading to it as a logical necessity, strongly suggest the pluralistic hypothesis.

The part played by the subject in experience is not a purely passive one. We find that we are able to interfere in the course

of events, and, within limits, to guide the latter to the fulfilment of our ends. The realization of this ability is the basis of the notion we form of efficiency, and in it the root of the concept of causality is grounded. The concrete meaning of causality for us is therefore the efficient determination of one thing by another. This relation of efficient determination is one-directioned; it is not reciprocal. This follows from the fact of the one-directionality of time in actual experience. No doubt if we formulate symbolically this sequence of cause and effect, there is *logical* dependence of one on the other. Such a logical dependence, however, is descriptive, and does not alter the fact that in actual experience our activity determines its consequences in an entirely different sense from that in which it is determined by them.

In the course of his development, man comes to apply this idea of efficient causality to the sequences which he observes in the object of experience. The question then arises as to whether this application is valid. If we take the sequences simply as they stand, it is certainly not valid. We can only say that certain sequences *do* occur, and that we are able to formulate propositions in virtue of which the occurrence of some events can be inferred from the occurrence of others. From this purely scientific standpoint, causality is merely a logical and descriptive dependence of one event upon another. We may, however, wish to go beyond the mere existence of the sequences in an endeavor to find some satisfactory explanation of their existence as sequences. We know that some efficient individuals exist, and we also know that some of the sequences observed are initiated by the activity of these individuals. Hence we take as an hypothesis the proposition that all sequences have their ground in the activity of efficient individuals. This hypothesis is not logically proven, but it covers the facts by explaining them in terms of entities whose nature we can realize. It is therefore justifiable.

It is necessary for the purposes of reasoning to formulate our ideas in terms of sequences of sense-data. But the artificiality of the latter is brought out by the consideration of the problem of continuity. In fact, the problem itself is due to this artifi-

ciality. That fundamental characteristic of the object of experience which is commonly termed 'continuity,' is really unity—unity in space and time. This consideration alone is sufficient to show that any theory which purports to give a final answer to any of the problems of the Universe in terms of such things as sense-data, may be ruled out at once. On the other hand, the unity of the object implies the unity of the subject, for this is its ground. It thus emphasizes the fact that selves are single space-time entities that may be taken as true units in terms of which to express our explanation of the objective facts of existence.

This idea of the self as a unity which, in its completeness, transcends space and time, though for most purposes we conceive it as developing in space and time, is the conceptual representation of something realized concretely in actual experience, namely, the persistence of our identity through change and development. This reconciliation in the self of the principles of permanence and change provides us with a concrete example of that which we endeavor to conceive when we talk of 'substances.' It is impossible to formulate the reconciliation adequately in words, but it is there, and we realize its existence and its nature. We cannot rest content with regarding the object of experience as mere change (whatever that may be) based on no elements of permanence, so that we come to look upon experience as interaction between self and other selves, following the pluralistic hypothesis. Accordingly, the attributes of these selves or substances are their modes of activity.

In many cases this activity seems to lack spontaneity and to conform more or less completely to general laws, being due, as we suppose, to selves of extremely inferior mentality, and so, for the most part, the slaves of habit in their reactions. In many other cases the activity is only completely explicable with reference to the end which it achieves. Possibly we might be able to describe the activity completely in terms of the ordinary objective conceptions of physical science. This alone, however, leaves us far from satisfied. We can no more be content with it than we could be content with a mere description of the acts of other people accompanied by no statement nor understanding of their

reasons for those acts. But if we regard all activity as being due to purposive individuals, we not only observe and describe the activity but we *understand* it. It acquires meaning, where before it was meaningless.

The new scientific method is, then, in its own field and for its own purposes, a most powerful weapon of research. For the ends it has in view, the ignoration of the subject of experience is justifiable; but this only so long as we remember that the results obtained must not be regarded as giving a fully adequate account of things, even on the objective side of experience alone, but simply an account, which, in its proper application, is the most satisfactory that can be obtained, owing to the limitations of the conceptual standpoint. The ignoration of the subject has, however, the important consequence that the results obtained by the scientific method may not validly be used to criticize such an hypothesis as pluralism, for they stand on an altogether different ground. On the one hand we are investigating the logical form of facts, on the other we are out to explain the facts, and unless in doing so we describe the facts wrongly, we cannot lay ourselves open to criticism of the kind indicated.

The type of result afforded by the scientific method leaves most of us unsatisfied. We wish to go further than mere description. The pluralistic hypothesis is an endeavor to satisfy this wish. It attempts to put everything in terms of things whose nature we actually *realize*, and which may therefore be simply indicated without the necessity of formal conceptual specification. This is all the more important because such a specification can never adequately comprehend the object to which it refers. Pluralism is, of course, an hypothesis, and therefore subject to the limitations of hypothesis in general, but it is *based* on no assumptions save in so far as it makes use of the logical canons of reasoning, if those can be called 'assumptions.' The assertion of the existence of the self is not an assumption; and although we have referred to the assertion of the existence of other people as being an assumption, it is not so, strictly speaking, but rather the first step in the application of the pluralistic hypothesis to the explanation of the facts of experience.

So far as we are able to explain the facts by it, pluralism is therefore an eminently satisfactory hypothesis; for, while it avoids the introduction of unknowns, it brings home to us the nature of existence in general in an entirely unique way. We have the assurance that where it is successfully applied, the result will be, not merely to shift the problem back a step, thereby creating a new problem of the same type, but to provide a final explanation—an explanation which is capable of fully satisfying such beings as ourselves, in the search for the true nature and meaning of reality.

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## THE SOCIAL NATURE OF THINKING[1]

THE purpose of an association such as I have the honor of addressing is to express and foster the ideals of scholarship, to do its part in maintaining in our civilization the ideal of the intellectual life as something of supreme value and importance. To preserve and deepen the humanistic tradition by interpreting it anew so that each generation may not fail to receive its due inheritance of ideas and guiding principles, is a task that becomes increasingly difficult as time goes on. Our faith in progress, however well-grounded it may be, does not justify us in overlooking the fact that rational ideas, and the civilization that is based upon them, are in constant danger of being perverted and destroyed by forces of irrationalism which often assume plausible forms and profess to prophesy in the name of what is highest. If civilization is to advance, it must be through the power of thought, through the influence of ideas; without this direction the course of human history shows a constant tendency to revert to barbarism as the type of a 'natural society.'

The intellectual life, as the basis of civilization, has to be supported by organized effort and with vigilance unremitting from generation to generation. Over against the scholar there always stands a mighty army, numerous and strongly entrenched, the practical men falsely so called, whose real name Plato long ago declared to be misologists—haters of ideas. Their favorite form of attack consists in contrasting the weakness of the mere theorist with the strength and excellence of the practical man, who is called the man of character and good will. The general question of the relation of ideas and practice is a well-worn battle ground which I shall not ask you to re-traverse this evening. But I wish to say a few words regarding a point that is freqeuntly implied in the depreciation of ideas. The scholar's life, it is often said,

[1] This paper was delivered as an address before the Phi Beta Kappa Society of the University of Virginia, and is here reprinted without change from the University of Virginia *Alumni Bulletin* for April, 1916.

isolates the individual from his fellows, divorcing him from real life and from the practical endeavors of men that give to human existence its highest significance and value. I believe that this charge is unjustified, and that it derives its appearance of plausibility from a false and antiquated theory of the nature of thinking and a misconception of the conditions under which it takes place. If it can be shown that the life which concerns itself with ideas involves the closest union of the individual with his fellows, this will in some degree serve as a reply to the oft-repeated charge to which I have referred, and will also, I hope, suggest some further applications that may be of interest.

The thesis which I shall maintain is that the intellectual life is a form of experience which can be realized only in common with others through membership in a social community. The life of the scholar is no abstract self-centered mode of existence: it does not consist in withdrawing from the world, or in ignoring the claims of one's fellow-men. On the contrary, it demands the most intimate and sympathetic partnership with the minds and interests of others. At its highest and best, it is of all forms of human life the least exclusive and self-centered, and perhaps that which affords the most complete illustration of social community and coöperation. It is a popular idea that thinking is a process by means of which the individual evolves ideas in some mysterious way from the depths of his own consciousness. But reflection shows that this idea is false, both to the facts of individual experience, and to the history of the development of thinking in the race. An appeal to the facts shows that thinking takes place in the medium of dialectic and discussion, involving the contact, and nearly always the conflict, of different minds. It is a function, not of a single individual mind, but of a plurality of minds in social interplay. In short, what I shall maintain is that the notion of the isolated individual is as inadequate and misleading when taken as a basis of logic as by general assent it is acknowledged to be when employed to explain the moral, political, or religious experience of the individual.

In these latter fields of experience, the conception of the social nature of man has largely transformed our ideas of human rela-

tionships, and has in most quarters displaced the older theories which regarded the isolated individual as the starting point and center of all inquiries. This change has been practical as well as theoretical: not only has it modified our ways of thinking, but it has led to important changes in social and political practice, and has given a new direction and motive to the efforts of religious workers. Like so many of our modern discoveries regarding human relationships, the idea that the nature of the individual is essentially bound up with that of others, is in many respects nothing more than a return to a point of view that was familiar to the great thinkers among the Greeks. Both Plato and Aristotle saw the impossibility of separating the individual from his society. The richer experience of the modern world has, however, given to this point of view a deeper meaning and a more fruitful application than was possible in the earlier time. Nevertheless, it is safe to assume that the corollaries and applications of this conception have by no means been as yet fully perceived. What will happen when men really begin to apply this doctrine and to act upon it, no one can say. In the meantime, it must not be forgotten that this new social doctrine has come not to destroy but to fulfill whatever is true in the old individualistic conceptions. In other words, the modern point of view which is affecting so profoundly the relation of man to society may also be described as a more adequate realization of the nature of individuality. It shows how completely the concrete content of individuality is social. It restates and demonstrates in detail the familiar truth that we are all members one of another. That doctrine was long repeated with the lips before it was consciously and deliberately adopted as a basis for constructive theory. It is always a surprise to find that a familiar and accepted truth embodies a principle of great significance—that a doctrine charged with profound revolutionary consequences contains nothing but what the prophets foretold.

In our theories as to the practical relations of men in society, we have at length come to see that it is necessary to read the facts in a new way. If it is true that the individual, as a moral, political, or religious being, includes as an essential element

within himself relations to his fellowmen that involve some form of organized society, then it is evidently a wrong scientific procedure to assume as the fundamental reality a self-centered individual whose activities are all concerned with the promotion of his own happiness. The older theories of politics and ethics accepted unquestioningly the notion of the individual as a self-contained given entity, endowed with certain properties and principles, *e. g.*, "self-love to move and reason to direct." Guided by a similar logic, the older physical theories assumed as their unquestioned datum of fact the self-enclosed atom with its properties of attraction and repulsion. From these isolated atoms, physical and social alike, the nature of the physical world and of human society had to be explained. But the same logic that overthrew the notion of the hard atom led in the social field to a truer view of the nature of the human individual. In both cases alike, a dynamic and relative view came to displace the older static and external set of conceptions. This new doctrine teaches that nothing is isolated and nothing fixed: that the parts live in and through their relation to the whole; and that change finds its way to the very heart of things.

I do not feel competent to speak of the results which the application of these new categories have brought about in the physical sciences. We know, however, that the older hypotheses have been revolutionized, and that much has happened and is happening in these departments of knowledge that was wholly undreamed of in the old philosophy. Similarly, the abandonment of atomistic conceptions of man and of society has brought about consequences that seem in many respects even more strikingly revolutionary. In order to give an account of these changes, it would be necessary to undertake to write the history of recent thought in these fields. We have only to consider the older political philosophy which was based on the conception of a social contract, the hedonistic or intuitional theories of morality, or the classical forms of political economy, in order to realize how great is the gulf that separates our thought from the individualism of the eighteenth and early nineteenth centuries. Even those of us who still call ourselves individualists no longer base our argu-

ments upon a conception of the rights, duties, or interests of the formal or nominal individual; we have been forced to abandon the notion of *exclusive* individuality, and to recognize that individuals have reality and significance, not in themselves and by natural or divine right; but just in so far as they embody and express the life and purpose of a larger social whole of which they are members. It is as *members of society*, not as self-subsistent entities, that individuals must be interpreted. Individuality involves partnership with others, coöperation in a common cause, loyalty to interests that carry the individual out beyond the limits of his merely private life. This conception of concrete individuality, as deriving its positive content from social relationships, is leading at the present day to new methods of inquiry and to new problems in the fields of social and political life. Even in religion, which has never been entirely deprived of social significance, emphasis has in recent times been laid less upon the individual's so-called inner life, and more upon his relations to his fellows. It must, of course, be added that this whole process of reconstruction is still going on, and that many questions as to the lines of its detail are still under debate. For our present purpose, however, it is not necessary to give an account of the results so far achieved, or to attempt a criticism or justification of the doctrines of any particular writer. These references are intended only to introduce the question whether the adoption of a similar standpoint is not necessary in order to understand the significance of the individual's thinking, and the influences which go toward the development of the intellectual life.

It might seem that this view would require only to be stated in order to find assent. For it is impossible to separate the concrete life of the mind into separate departments. The mind is a whole, and if its social nature is demonstrated in certain forms of experience, we should hardly expect to find it, in any one of its aspects, remaining isolated and self-centered. Nevertheless, both in popular thinking and in psychological analysis there is a tendency to regard the thinking mind as a particular form of existence, somehow enclosed within a body, and expressing the

functioning of a brain. Just as one body keeps another body out of the same space, so the thinking mind of the individual is regarded as isolated, repellent, exclusive. The thinker is taken to be a solitary being, wrestling with his own problems alone and unassisted. By the power of his mind he is supposed to create truth through his own analysis and meditations. And, again, as an independent thinker, *Athanasius contra mundum*, he is supposed to be capable of bearing witness to this truth, and of making it prevail. As opposed to this contention, I wish to suggest that the process of verification always involves, either directly or indirectly, the coöperation and interplay of a plurality of minds. It is with the support and in the light of the thoughts of other men that the individual is able to free himself from subjective fancies and hasty generalizations, and so to attain to universal truth. The result is not original in the sense that it has sprung wholly from his brain, but it is the product of many minds working together. In short, I am expressing again the doctrine that I have already suggested: thinking is the outcome of the functioning of a society of minds, not of an abstract individual mind, just as morality, and political institutions, and religion spring from and belong to such an organic unity of individuals. "Without society no individual," is a statement that applies to man as a thinker no less than to man as a moral or political being.

This doctrine has in some degree always been recognized in practice. The expression of thoughts, the appeal to our neighbor, discussion and dialectic, have been since the beginning of history the accompaniments of thinking. It was no accident that the thinkers of the early Greek period, when they undertook to investigate the problems of the world, grouped themselves into schools in order to obtain social support and assistance. In the procedure of Socrates we have a striking example of intellectual inquiry carried on unceasingly as a social undertaking. And it would be possible to find illustrations of the same practice from every period of history. In our own time, the increase of the various means for discussion and the exchange of ideas—the multiplication of books and periodicals, of conferences and associations—is taken, rightly or wrongly, as a sign of intellec-

tual activity. Nevertheless, the theory of the lonely thinker busy with his own states of consciousness still persists. And theory reacts upon practice.

It may be asked whether the social character of thinking is not sufficiently recognized in the current expressions as to the need of intellectual stimulus from other minds, and of division of labor and coöperation in the various sciences. The answer is that these and similar expressions do indeed recognize a relation *between* minds, but fail to recognize a relation *of* minds. The imagery conveyed by these expressions is that of a relation which is external and more or less accidental, rather than inner and essential. It is acknowledged that other minds do *on occasion* afford us stimulus and aid, but the individual is still regarded as a self-subsistent unit. The relation to other individuals is helpful, it may on occasion even be indispensable, but it does not in a literal sense make part and parcel of our thinking.

The need for coöperation in the work of the sciences was eloquently proclaimed by Bacon in his trumpet call to men to organize for the great task of interpreting nature. And in this respect, as in so many others, his words have been prophetic. However much importance we may attach to the contribution of men of genius, we are forced to recognize that the advancement of knowledge has been made possible through organization and the creation of agencies for bringing the results of individual effort into a common stock and making them accessible to all. Nevertheless, although no one can fail to recognize this fact, the language in which it is usually described does not carry us beyond the notion of external or mechanical coöperation. It suggests the notion of knowledge being built up by each individual *privately* doing his part, and of the whole as being formed by such accretions. The total is indeed viewed as the product of many minds, but each man is regarded as performing his part more or less independently, and not as entering into the thought of his working partners. Such a description is not adequate to the living organization and correlation of parts necessary for a science. Nor does the idea of the division of labor, and of each having his separate task, do justice to the real collaboration that

is involved in all intellectual work. As a matter of fact, the division of labor which involves coöperation is possible only when all the members are guided by a common idea, so that each member responds to, and to some degree influences, the directing purpose of the whole. In order that there shall be genuine cooperation in any spiritual enterprise—and all enterprises involving human individuals are at bottom spiritual—the parts must be members; and to be a member implies a constant interplay and interchange taking place between the different points of the system. Individualism, in the exclusive sense, furnishes no logical basis for coöperation. In developing the idea of coöperation, we must recognize the fact that the contribution of each individual is itself the outcome of social collaboration: not only is there coöperation with respect to the whole, but with respect to each of the parts. In other words, what we call the contribution of the individual, in so far as it is a genuine contribution, is itself a product of intellectual coöperation.

If this form of unlimited spiritual partnership exists among men as intellectual beings, it is surely right that our logical theories should not fail to recognize this fact, and to give it proper explanatory significance. Notions of coöperation and division of labor which are based historically upon the assumption of the separate and independent individual thinker, fail, like the social contract theories of the state, to describe adequately the concrete relations of human beings. These conceptions derive the degree of truth and plausibility which they possess from their partial recognition of the need of one individual for another, in order that the ends most essential to civilization shall be realized. But, as we have seen, the relation to others is still regarded as something external to the individual, and not as literally constitutive of his individuality.

An advance to a more satisfactory point of view is afforded by the application of historical or evolutionary categories to the development of knowledge. The history of the special sciences, and of the total body of organized knowledge that we call Science, discloses the continuity and organic connection of the various elements from which these systems are built up. The concept

of growth is substituted for that of mechanical construction. The progress of knowledge consists neither in the displacement of the earlier ideas by the later, nor in a simple process of addition, but is effected through a movement in which the results of the past are at once assimilated and transformed. From this point of view the contributions of individual thinkers are not viewed in isolation, but as moments in the larger intellectual movement to which they belong. The center of interest is not placed in the private individual, but in the development of ideas, the growth of new problems, and the transformation of old theories. The dominant thinker of the time is regarded as simply giving expression to ideas which are in some sense the common possession of his time. His originality consists in his ability to grasp as a whole and to bring to expression what is already moving in the minds of many.

History shows how frequently the development of ideas, commonly attributed to great individual thinkers, does as a matter of fact take place through a process of slow modification extending over a considerable period of time. These slowly moving changes are the result of prolonged discussions in which many individuals have borne a part. In the total result the contributions of any one man do not stand apart from those of the others, but appear as steps or stages in the development. They have significance, not in and for themselves, but through their relation to the ideas of some forerunner or contemporary. Illustration of this can be found in almost any of the great theories current today. Newton's theory of gravitation was only the culmination and extension of the mechanical theory that was developed throughout the whole of the seventeenth century by the coöperation of many thinkers. Newton's answer gets its meaning and significance from its relation to the problems which Kepler and Galileo brought to light. The evolutionary theory is still more obviously the result of a movement involving many minds. In the history of this movement we distinguish, but cannot isolate, the elements that are due to this or that individual. Since the time of Darwin the evolutionary conception has undergone important modifications, and it has gained new meaning by being

extended and applied in many fields of knowledge. Although the historian of the theory might mention various names in connection with this or that step in advance, he would admit, I think, that the modifications have come about through the interchange and interplay of different minds in their reflection on the problems involved.

The same point finds illustration in the history of English Liberalism as set forth, for example, in the little book of Mr. L. T. Hobhouse. It is a far cry from the ideas of *laissez faire* and freedom of contract as held by the Manchester school to modern Liberalism as represented by Lloyd-George and his associates. Yet the latter form of the doctrine has developed logically by a deepening and extension of the fundamental principle contained in the earlier position. In tracing this development we come upon prominent thinkers who have influenced its direction; but the striking fact remains that the advance is the outcome of a process of social thinking to which the masses as well as the leaders have contributed. Even those who have opposed Liberalism have had a part in determining its direction and character.

Nevertheless, in the face of such historical examples, which might be multiplied indefinitely, it may still seem possible to fall back on the statement that all thinking takes place in individual minds. But axiomatic as this proposition may appear to be, it has no bearing at the present stage of our discussion. It is put out of court by the prior question, which has already been raised: What is the character and reach of the individual mind within which thinking goes on? Is the individual mind which has the power of thought to be regarded as inclusive or exclusive of the mind of others? Is thinking a mere subjective turning of one's gaze inward, a searching within the depths of our own private consciousness for ideas, or does it imply a looking abroad and an actual participation in the minds of our fellow-men? When one insists that thinking goes on in individual minds, it is difficult to avoid picturing these minds as independent entities, distinct from each other like bodies in space. In accordance with this imagery, which is adopted by the popular psychology, the mind is conceived as a particular thing or object with an inner self-

inclosed mode of existence. The fact remains, however, that the popular imagery of the mind and the descriptive account of its content based on this imagery are inadequate when confronted with the actual facts of experience. This is what has still to be shown.

Physical things may be defined for some purposes in terms of their mutual exclusiveness. A body is that which excludes every other body from the space that it occupies. But this logic of mutual exclusiveness cannot be applied to minds. Of course there is a sense in which each individual mind has its own *differentia*, its own unique life. But it is of the very essence of mind to go beyond its limited and isolated form of existence, and to include what is necessary to complete and render consistent its own experience. Intelligence constantly looks outward, sharing in communistic fashion its own riches with others, and unhesitatingly appropriating the fruits of other men's labors. In other words, intelligence is openness, participation, making possible the mutual sharing and conflict of minds. Intelligence is not a private endowment that the individual possesses, but rather a living principle which possesses him, a universal capacity which expresses through him the nature of a larger whole in which he is a member.

This organic relation of the individual mind to other minds is, however, not the only element in the total process of thinking. The relation of the mind to the external order of events that we call nature cannot be left out of account. It is just as impossible to describe thinking without any reference to nature as it is to describe it without regard to the minds of other men. And the one relation is no more external than the other. This statement must not be interpreted to mean that what we call nature is itself subjective, a mere order of ideas in the minds of individuals. On the contrary, it is intended to emphasize the distinction and opposition between mind and the external order. What I wish to insist upon is just the opposite of subjectivism, namely, that the individual mind has no reality apart from such an order of nature. The thinking mind exists, as the revelation of an order

that stands over against it. The world of objects, or nature, on its side, is just that which progressively reveals itself to thought. It is opposed to mind, indeed, but yet cannot be defined merely in terms of this negative relation; as Descartes, for example, sought to define it. In spite of the fundamental opposition, or rather just because of this opposition, the relation between the two sides is complementary: thought is real and genuine just because it has the capacity to grasp and express what is not thought; and nature on its side is that which reveals its unity and significance in terms of thought.

In attempting to understand the nature of each of these complementary factors, we make the problem hopeless at the outset if we fail to recognize both their opposition and the complementary character of this opposition. We must remember that it is only *through and because of* his relation to nature that the individual is a thinking being. The touch with the outer world is not something that we could dispense with and still keep our own minds. In a very real sense we must admit that we have received all that we have; our wisdom is not our own, but has come to us from without. On the other hand, it is necessary to recognize that the objective order is capable of furnishing us with instruction only in so far as we find there replies to our questionings. What we call nature is not a miscellaneous assemblage of facts which are mechanically impressed upon us. It reveals itself to us rather as a continuous set of problems and answers, as that which affords at once the necessary stimulus and the verification of our thinking. There is thus an interplay between mind and nature, one furnishing the complement and answer to the other. This interplay is analogous in character to the complementary correspondence that is exhibited between one mind and another in social relationships.

The question may arise whether in this organic relation of subject and object we have not all the factors that are indispensable for thinking. The necessary relationship that exists between the mind and the external order may be admitted, and still it may be denied that the relation of subject to subject, the social interplay of minds, is in any way essential to thinking.

Why, it may be asked, may not the thinker solve his problems alone, confronting the facts singly, and without reference to the opinions of any other man or body of men?

This question assumes that nature as we know it is quite independent of the social order, and that a relation to this external order is sufficient in order to develop self-consciousness on the part of the individual. But both of these assumptions appear to be contrary to the facts. In the first place, what we from our modern point of view call nature has been made what it is for us through a long process of social thinking, extending back to the first beginnings of social culture. The nature which we seem to find as something immediately 'given' has actually been mediated through the forms of social thinking and social description. If we think of the external world as a coherent system of uniform laws, we have to remember that it was with much labor that this conception was reached; and also that all kinds of superstitions are threatening to destroy it even in our own day. The nature which is our guide and instructor is no brute fact, but a 'second nature' made over and rendered orderly and respectable by the social thinking of the race. It requires eternal vigilance and effort to maintain this rational view of nature. The tendency toward barbarism, which seems to be quite as real and potent as the tendency towards civilization, manifests itself in every age in theories that are only thinly disguised attempts to strip nature of her order and rationality and to revert to some primitive superstition akin to witchcraft or animism.

Nature itself, then, as a rational order presupposes social thinking, and is shot through and through with the results of such thinking. It thus becomes a middle term that mediates between one mind and another, or between one generation of people and another. But, in addition to this *mediated* relation to other minds afforded us by the external system that we call nature, and by objectified orders of ideas such as those embodied in systems of law and religion, thinking seems to demand a direct and living relation between individual minds. For thought involves a consciousness of self as well as a consciousness of objects.

And it appears certain that without the stimulus afforded by the direct contact with other minds, the individual would not come to a consciousness of himself. We come to know ourselves through learning to know others: our fellow is the medium in which we see the nature and meaning of our own mind reflected. The consciousness of self is thus no original datum, but something progressively communicated to the individual through his contact with nature, and especially through social contact with his fellowmen.

The process of thinking may accordingly be said to involve and to be constituted by the interplay of the three moments,—the self, fellow-men, and nature. No one of these three centers can be reduced to terms of the other; they exist and develop in correlation—each reacting upon the others, and in turn receiving through this interchange its own content and significance.

In speaking of the direct communication between individual minds, I have of course no intention of suggesting any mysterious or telepathic influence. Language is the normal means of communication between minds, and it is in this medium that thinking takes place. The impossibility of separating thinking from language is now generally recognized, and this fact might be developed at length in support of the position here advanced regarding the social nature of thinking. Thought is not complete until it is expressed in words, and thus embodied in the coin of the social realm. Communication is not something superadded to thinking, but is an essential part of it. What is incommunicable or inexpressible is for that very reason unthinkable. With what is merely private and inner, thought has no concern.

I am anxious not to seem to rest my conclusions on general considerations and arguments which someone may term 'metaphysical' and feel justified in neglecting. These conclusions are, I think, borne out by an appeal to actual experience. A concrete act of thought may be divided into three parts: the formulation of the problem, the ideational construction, and the process of verification. These divisions are not, of course, to be taken as

successive and external to one another, as if one were completed before the next were begun. Now I think that reflection on actual experience reveals the fact that in each of these stages of his thought the individual makes use of the mind of his fellowmen. I wish to suggest briefly certain facts relative to each of these three phases of the process of thinking.

To become conscious of a problem and to succeed in giving it exact formulation is a long step towards its solution. But this task is never accomplished by the individual unaided. Our problems are set for us by reference, more or less conscious on our part, to what others have thought or are thinking. They grow out of the interests and requirements of the society to which we belong. It is through our participation in the intellectual life of society that we attain the level where a real problem emerges for our consciousness. The stimulus of society is required to enable us to perceive and to locate intellectual difficulties. When we say that the reading of a book or the influence of a teacher has made us think, we usually mean that we have been helped in these ways to perceive new problems of which we should otherwise have remained oblivious. The value of the influence thus received does not at all depend upon our willingness to accept the conclusions of others. On the contrary, it may oftentimes have more important results if it rouses opposition. It was Hume's sceptical solution of the problem of knowledge which awoke Immanuel Kant from his dogmatic slumber and gave rise to the critical system of philosophy. Kant himself acknowledged that it was only through Hume's assistance that he was enabled to catch sight of the fundamental problem of philosophy in its complete generality.

But when the problem is once formulated, does not the individual have to solve it by his own thinking without outside assistance? It is at this point that the image of the solitary thinker is most insistent. A little reflection on our own experience will, however, convince us that in the effort to analyze a situation and solve a problem there is always involved a reference to the ideas and suggestions of others. From beginning to end thinking involves debate and discussion, the opening of one

mind to another, the mutual corroboration and opposition of minds. It is just this social reference, this dialectical character, that gives point and relevancy to our judgments. Without such a social situation, actual or dramatically assumed, every judgment would lack that point and appropriateness to the situation upon which its significance depends.

The interplay of minds implied in all thinking doubtless finds its most complete and characteristic expression in oral discussion. When carried on at its highest level, this affords an almost ideal illustration of the common functioning of several minds, each member of the group having at his disposal the resources of all the others. This dialectical play of thought has as its outcome something that is essentially a common product. Every member in the discussion comes to partake of the fruits of a larger social intelligence, which has come into being by each individual uniting his mind to that of his fellows. It is of course true that the outcome of a discussion may in some cases be nothing more than a compromise—an agreement on the part of those participating in it to support what no one really believes in. But when the object is to discover the truth rather than to find a practical measure of agreement, and when each party to the discussion is loyal to his own conviction and at the same time open-minded to the arguments of his neighbor, the individual is likely to be carried beyond the limitations of his ordinary consciousness. I have in mind, as I have already said, discussion when carried on under the most favorable conditions. For in order to appreciate the typical character and purpose of any activity whatever, it is necessary to take it in its highest and most complete form, and not to emphasize its defects and perversions.

When mind speaks to mind through the medium of the printed page, the contact is no less real, though less direct. This form of communication has an advantage, indeed, in that it enables us to overcome the limits of time and space to which oral discussions are subject. It enables us to receive instruction and stimulus from those whom we have never seen, and even to appropriate as our own the ideas of the great thinkers of past ages. But incalculably great as is our debt to the past, the instruction

which we receive from it has this unsatisfactory feature: we have no opportunity of answering back or asking questions. Socrates in the *Apology* suggests that such an opportunity may be one of the chief joys of a future life. "What would not a man give to be able to examine the leader of the great Trojan expedition; or Odysseus or Sisyphus, or numberless other men and women!" And, again, it may be doubted whether without the assistance of our contemporaries we should be able to derive much instruction from the past. It is the personal and social atmosphere of our own time that constantly sustains our thinking and enables us to reconstruct the past. Even when in our reflective moods we seem to shut out the world, and call our thoughts home, we still carry into that inner world of imagination our fellow-men and their thoughts. In imagination a discussion is still carried on, in which the theories of this man, or the objections and criticisms of that man, are weighed and evaluated, as we continue to develop and modify our ideas. If we do not carry on this form of imaginary debate with our fellows, each of us carries on a dialogue with himself. One part of the self may assume the rôle of the *advocatus diaboli*, suggesting doubts, raising objections, and mocking at conclusions. In all these cases the social process is simply transferred within us. The debate with ourselves is just the rehearsal or repetition of a debate carried on with others. Thinking still takes the form of dialectic, but instead of talking to others we talk to ourselves.

Bringing ideas to expression is accordingly a part of the thinking process, not something to which we proceed *after* the thought is complete. Until we are able to find the appropriate language in which to express our meanings, the ideas themselves lack definiteness and precision. Moreover, before they can attain the rank of knowledge, it is not only essential that our ideas should be embodied in language, but also that they should run the gauntlet of public opinion. In other words, *verification* is an integral element in thinking, and verification, like the other phases of the process, is fundamentally social in character. Our thoughts gain their certificate of truth only after being sifted, tried, and tested by a larger and more complete experience

than that of any individual. The individual succeeds in criticizing and evaluating his own thoughts through the help that he receives from others. It is largely through the help of our friends that we discover what we ought to think. We feel the necessity of having friends confirm our views, and the certainty and assurance that we come to feel in our own conclusions is to a large degree a reflection of the judgments expressed by them. When they fail to agree with us, we feel that it is necessary at least to reconsider the arguments, taking account of the objections that they have brought against our position. Even when after mature consideration the individual feels obliged to maintain his conclusion in the face of the opinions of others, he still appeals to a social standard for confirmation; as, for example, to the judgment of a more enlightened society of the future.

It thus appears that thinking is a joint enterprise at every stage of its procedure, and that it is comprehensible only in the light of the social relations that it presupposes. To think is to maintain open-mindedness, to enter sympathetically into the ideas of our fellow-men, to become working partners with them in the highest and most characteristic form of social life, a life where there is full and complete participation by each member in the resources of all.

I have been maintaining that as an intellectual being, no less than as a moral, political, and religious being, man is made for society. But it should also be added that the various sides of life to which these names apply are not separate departments operating independently of one another. Experience is a whole, and all attempts to analyze and explain it which do not keep in mind this primary fact are likely to prove misleading. We cannot, for example, divorce morality from religion, or intelligence from politics. I wish more particularly at the moment to insist that the intellectual life is not something apart from the practical activities of men. The chief danger lies in forgetting that the practical life actually lived by men as social beings is a life mediated through ideas, and made possible by intellectual agreements. Of course it is true that the unities which take the form of feeling and of practical purpose are also elements that hold

society together; but it remains true that wherever there is unity of any sort among human beings there must be common ways of thinking. Intellectual opinions do indeed divide men, but the reason alone has power to heal the strifes and divisions to which it gives rise. No remedy for the evils of human life that dispenses with intelligence can be anything but a sham. Philosophy must still remain the guide of life.

The doctrine of the social character of thinking has many applications and corollaries, both theoretical and practical. I shall attempt to suggest only a few. First of all, there follows the need of keeping alive discussion, both in public and private, and of emphasizing, even more strongly than we have hitherto done, the advantages of coöperation and organization in our efforts to maintain and advance knowledge. I am not minimizing the value of individual effort and individual leadership; but to make his work profitable even the man of genius requires a society capable, not merely of understanding him, but of rendering him assistance by intelligently opposing and criticizing him. The suggestion, opposition, and criticism that come from other men are necessary to render the thought of the genius fruitful and to preserve his own sanity and objectivity. How many potential geniuses have been wasted for lack of the necessary intellectual environment: some hampered for lack of appreciation, more, perhaps, ruined from lack of intelligent criticism. It is desirable, however, not only to increase the *opportunities* for discussion, but also to improve its quality, and so to render it a genuine instrument of coöperation. A man must join himself to his fellows with open-mindedness and genuine good will. He must respect both his own reason and that of others, freeing his mind from all pettiness and vanity, loyally bearing his part in the enterprise. Differences and controversies are bound to arise, but these represent only the aspects of supplementation and correction necessary to secure a fuller and more complete theory. Controversies are necessary phases in coöperation, so long as the main purpose is not allowed to become obscured by personal feeling, so long as care is taken to preserve "the unity of the spirit in the bond of

peace." When this is lost, when scientific discussion degenerates into personal bickering, the world has another illustration of the sad truth that the corruption of the best is the worst.

Our analysis of thinking has shown that the production of ideas cannot in the end be divorced from their expression and dissemination. This fact is of great practical importance both from the point of view of the individual and from that of society. Thinking, we saw, is thoroughly communistic in character: it borrows freely from others, and is ready and anxious to share what it regards as its own riches of discovery. There is no private property in ideas; they belong, by right of birth and nurture, to society. Just for that reason the attitude of others whom we regard as our fellows towards what we regard as truth can never be a matter of indifference. We are rightly bound to come to terms with our neighbors. The function of the intellectual life is not fulfilled until it has provided a basis for a real community of life between all members of the human race. The intellectual life from its very nature carries with it something of the missionary spirit. The impulse to know contains as an essential element the desire to convince others, or to be convinced by them. There is of course a certain amount of truth in the statement that our first duty is to cultivate our own garden, to strive for clearness and consistency in our own thinking. But it is impossible to clear up our own thoughts without at the same time seeking for intellectual agreement with our fellows. The ends of the intellectual life are inclusive: the good that we desire for ourselves we seek for others also. Indeed, these two things are one and inseparable; neither one can be realized apart from the other.

Since individuals are thus interdependent in the sphere of thought, as in that of action, it follows that there exist certain reciprocal rights and duties in this field that ought to be recognized. The individual may claim discussion as a 'natural right.' That is, we are justified in expecting others to interest themselves in our ideas, to supply the demands that we make upon them for stimulus, suggestion, and correction. If the proper exceptions and limitations are assumed, we may go even further and

say that we have a right to demand that others shall agree with us or show their reasons for differing. And, on our part, we owe similar duties to them. Toleration is a great virtue; when it is genuine it is based upon a respect for the reason and personality of others. But the easy toleration which declines discussion may be at bottom founded on indifference or indolence, and even in certain cases on something approaching contempt. Of course it is not possible for all men to pass their lives, like Socrates, in discussion. There is a time and a place for all things, and this consideration properly limits our impulse to argue with our fellows. But is it not true that we are sometimes prevented from contributing our part by a habit of false politeness that forbids us to express dissent? Is it not true that this negative form of politeness, which prevents us from joining in a discussion when we disagree, is frequently based on other considerations than deference? At any rate, the old maxim that silence gives assent seems no longer to hold good in our society, and to have been superseded by a *laissez faire* doctrine that excuses us from the duty of expressing our opinions. It is true that in passing judgment on such matters all kinds of concrete situations have to be taken into account. But to decline a discussion may indicate an attitude of indifferentism or even of hostility entirely out of harmony with the social view of the thinking individual which has been set forth in this paper. Intolerance, and even persecution, with all their evils, are on one side less anti-social than the individualistic indifference that refrains from the trouble of argument on the ground that one has no concern in the opinions of other people. Bad as they are, intolerance and persecution imply at least a partial recognition of the human rights and duties which belong to members of an intellectual community. We condemn these particular attitudes only because they defeat the ends that they aim to secure. It is impossible to force people to agree with us, and if it were possible, it would mean that we should be in danger of reducing truth to the fixed mechanical pattern of our own minds. But the requirement which can reasonably be made of others is that they shall play the intellectual game with us, that they shall differ from us as well as agree.

It is through dissent and difference, it may be through opposition and conflict, that truth is born. There must of course exist a certain degree of agreement and unity in order to make possible a real contact of minds, but if there is to be real social intercourse, one individual must never become a mere echo or imitation of another.

If the work of thinking has thus its two complementary sides, of discovering truth and making it prevail, it follows that the true thinker is at once a teacher and a learner. He lives his life in reciprocal relations with his fellow-men in society, both giving to and receiving from others. Where the relation is not reciprocal, and the giving and receiving not mutual, thinking fails to attain to its full vitality and perfection. The intellectual life, like all manifestations of spiritual activity, is realized only by loyally serving a cause in conjunction with others. The man who locks his ideas up in his own breast soon ceases to have ideas. On the other hand, the man whose sole delight is to instruct others, who holds too persistently and literally the doctrine that it is more blessed to give than to receive, soon exhausts his stores and degenerates into 'sounding brass or a tinkling cymbal.' To preserve the vitality of thought, a genuine give-and-take process is essential. Unless our views meet with some resistance, it is not necessary to go on thinking; it is enough to go on repeating them. There is food here for reflection on the part of those of us whose profession is to teach in the various schools of learning. It is doubtful whether a teacher can really give an education to students, if he fails to profit by their difficulties and problems, and to have his own mind quickened by their thoughts. To proclaim dogmas year after year is dreary and monotonous work. But to join with youthful minds in the keen pursuit of truth is a perpetual joy and refreshment of the spirit.

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# REVIEWS OF BOOKS.

*Problems of the Self.* An essay based on the Shaw Lectures given in the University of Edinburgh, March, 1914. By JOHN LAIRD. London, Macmillan & Company, 1917.—pp. xiv, 375.

Body and soul may fairly be described as the corner stones on which the ordinary man's concepts of his self and of his world are built up. The earth on which he lives is to him a large-scale body, belonging with other bodies, larger and smaller, to the astronomical system. In turn the earth is composed of countless bodies of various sorts—some, like itself, soulless, others combined with souls of manifold kinds and degrees, animal and human. Indeed, the ordinary man rarely stops here. If his environment consists at one end of soulless bodies, he thinks of it as extending at the other end into a realm of bodiless, or disembodied souls, unless he has heard hints of theosophy, and believes that at every level of existence, *e. g.*, the astral or the metetherial, the soul has a body of appropriate sort. In any case, he construes his world in terms of body and soul.

But when the ordinary man turns to philosophy, his pretty theory receives some rude buffets. That physical science should analyze his body as a conglomerate of invisible atoms, or of entities even more hypothetical, such as corpuscles, or ions, or even vortex-rings, may leave his equanimity undisturbed. But by the time the philosophers have done with his body, he hardly knows whether he has any such thing left. He is told by one that his body is nothing but a collection of 'ideas of sense'; by another, that it is a colony of monads or soul-like entities; by a third, that it is an unknown and unknowable $X$, the existence of which is precariously inferred from certain sense-data. From a figment of the imagination to the most patent fact of experience, from the least known to the best known object in the world, the body runs the whole gamut of possible theories. But if the vicissitudes of the body are amazing, those of the soul are perhaps stranger still. If the ordinary man goes back far enough, beyond Kant and Hume, for example, he comes upon theories which assure him that his soul is an immaterial spiritual substance, indivisible, indestructible, immortal. Here he may feel at home. For, though the terms may not mean much to him, they have a comforting sound. But philosophers would not be philosophers—at least not modern ones—if they

left the ordinary man's peace of mind undisturbed for long. Presently he finds Kant exploding the spiritual substance theory of the soul in the interests of empirical analysis. Psychology becomes preoccupied with the 'empirical ego' and this, he learns from Hume, is nothing but a "bundle of ideas" or, from James, a "stream of consciousness." There is no soul or self which 'has' experiences, which feels, thinks, wills. The experiences themselves, the feelings, thoughts, volitions, as they come and go, are all the soul there is. And when it comes to the self, James is, in certain moods, even more annihilating. "The inner nucleus of the spiritual self," the "self of selves," so James declares, consists, when carefully examined, mainly of "peculiar motions in the head, or between the head and throat." The ordinary man may glibly say 'I think,' but introspection, so James tells him, shows nothing but 'I breathe.' At the same time, whilst the self thus seems to shrink into the bare experience of certain bodily processes, the stream of consciousness threatens to make up for losing a soul by appropriating the whole universe. "What is the subject matter of psychology?" asks Yerkes, and replies: "It is consciousness, or the world of objects and events viewed as consciousness. . . . Upon reflection we discover that the whole world may be viewed either as consciousness or as objects and events existing apart from consciousness." Here at last the ordinary man may think (or breathe) is something substantial to lay hold of. But just as he stretches out his hand, the prize is snatched from his grasp by the behaviorist. Whilst most psychologists assure him that there is such a thing as consciousness, and that by introspection he can perceive that it is there and what it is like, the strict behaviorist denies both consciousness and introspection. He does not think it possible to find out what goes on inside a creature's mind. Hence he proposes to study the creature's behavior in response to definite features of its environment. You say the creature has a mind? Well, there it is, patently exhibited before you in its behavior. What is the creature conscious of? What does it perceive or think? Look what it does and to what objects in the environment it responds. Its consciousness is the cross-section of the environment composed of the things to which the creature's central nervous system specifically reacts. Do you ask for a self, a knower? There is the body. It is the knower, and its specific response is the knowing. Thus, with the passing of the spiritual substance, we first got 'a psychology without a soul,' and now we are getting a psychology even without consciousness. From spiritual substance to stream of consciousness, from stream of consciousness to cross-section of the uni-

verse defined by behavior—that is the amazing road which the theory of the soul has travelled. And the end is not yet. Indeed there has manifested itself quite recently a tendency to return to older views and re-fashion them in tenable form. McDougall has argued for the presence of a "non-mechanical teleological factor" wherever there is life and mind. May Sinclair has lent her vivacious support to the same cause. And now Professor Laird undertakes to show us "why there must be a soul, and in what sense precisely this soul should be understood" (p. v). It is clearly becoming fashionable again, not to say respectable, to mention the soul in the company of philosophers and psychologists.

Professor Laird gives us a metaphysical synthesis on a psychological basis. He relies on introspection for his empirical facts, and on logic (if that is the right word) for his analysis of such concepts as unity, continuity, identity, substance, which he needs for binding his facts together. The result is a theory of the soul as a substance, immaterial and existing in time. Though the bulk of the book is filled with topics belonging to introspective psychology, yet the theory of the soul which Professor Laird seeks to build up is no mere working hypothesis for use in a particular science, but a philosophical thesis well-rounded, self-consistent, and as final as it can be made. "The tendency, a generation ago, was to explain the self in terms of something else. The increasing tendency, nowadays, is to explain other things in terms of the self" (p. iv). As a characterization of present tendency this statement may be questioned, but it shows at least that Professor Laird is concerned with the self as a philosophical ultimate. The souls or selves (he uses the terms as synonyms) whose nature he tries to describe are at least such that it is not meaningless to discuss their immortality, or their relation to the "soul of God" or the "soul of the world" (p. 364).

The ground traversed by his argument is not only comprehensive, but Professor Laird is never afraid of digressions where the philosophical interest of the topic appears to justify them. After an introductory chapter, we get in Chapter II a careful discussion of the subject-matter of psychology and of the method of introspection. Chapter III, on "The Self and the Body," is followed in Chapters IV–VIII by an elaborate argument in support of the thesis that none of the three kinds of experiences which constitute a self, viz., feeling, willing, knowing, can claim 'primacy.' These chapters give Professor Laird an opportunity for discussing the views of a large number of philosophers and psychologists, and demonstrate alike the high quality of his

scholarship and the freshness and independence of his own thinking. Thus, in Chapter IV, he wrestles valiantly with the ambiguities of 'feeling,' and has a critical bout with Mr. Bradley. In Chapter V, the vexed question of mental activity and the introspective evidence for it continues to vex, notwithstanding that the argument ranges from James, Münsterberg and Stout to Hume and Berkeley. Chapter VI, entitled "Psychical and Purposive," gives an opportunity for an excursion into biology and a discussion of vitalism with reference especially to McDougall and Driesch. In Chapter VII, Kant and Fichte, Schopenhauer and Bergson occupy the stage under the general heading of "The Practical Reason." Chapter VIII, on "The Self as Knower," brings us back to the distinction, developed in Chapter II, of mental acts from their objects, and to the problem of the unity of these acts in a self or soul. This problem of unity in its ramifications occupies the remaining chapters (IX–XIII). What the unity and continuity of experiences actually amount to, when studied in empirical detail, is set forth in Chapter IX. Chapter X asks "How is this unity possible?" and prepares the way for the conclusion that "there must be a soul," by examining two rival hypotheses concerning retention, without which continuity is unintelligible, viz., (1) that it is a function of the brain; (2) that it depends upon psychical dispositions, eked out by "subconsciousness." I cannot do better than quote Professor Laird's own conclusion: "The permanence of the self may be only an expression of its unity and continuity in time. The unity is compatible with the existence of temporal gaps, and these may be irrelevant. Why complicate the discussion by seeking a permanent in any further sense? If such a possibility be admitted, no man can set bounds to its scope. Without a doubt, the brain is relatively permanent, and is one of the conditions of the retentiveness of mind, but we cannot conclude that it is the sole condition, nor do we know *how* it affects consciousness. Again, there is subconsciousness; but such subconsciousness may not extend far beyond the 'fringe' where it is found by actual inspection. Similarly, a 'psychical disposition' may be only a descriptive phrase and not an explanation. We must cling to what we find, and remember that entities should not be multiplied."

The evidence from 'Multiple Personality' fills Chapter XI, in which the famous Beauchamp family comes up for reëxamination. The chapter leaves us with the choice between saying that multiple personality is only an extreme form of a discontinuity quite familiar in normal cases, and that therefore a very loose unity suffices to make a self, or else demanding a very compact unity for a self and then acknowl-

edging the multiple selves as so many genuine personalities. Chapter XII prepares us for Professor Laird's theory of the substantiality of the self by an historical survey of the views of Descartes, Locke, and Hume and, more briefly, of Kant and Hegel. The argument culminates in Chapter XIII, entitled "The Soul." The bulk of this chapter consists of a very subtle and interesting discussion of the concept of substance. The main difficulty, so I understand Professor Laird to hold, is to account for the existence and particularity of each substance, seeing that anything we can specify as its quality or nature is universal and subsistent. He devises a solution by adapting the Aristotelian doctrine of Matter and Form. "Nothing which exists is a bare particular, mere matter without form, but, on the contrary, everything which exists is particular in an ultra-logical way. The form and the qualities which anything has are necessary to its existence, but, being universal, do not explain the ultimate particularity of existence itself. There must be matter, ὕλη, *stuff* . . . " (p. 346). I see the riddle, but I must confess that this solution of it baffles me at present. I can just see that it works so long as we argue at the level where experiences are the 'stuff' of the soul and their manner of unity is its 'form.' But can we stop at this level? The existence of the soul means the existence of the experiences of which it consists, but how the distinction of stuff and form applies to the existence and particularity of each experience, Professor Laird does not, so far as I can see, explain. However this may be, I will give his final view in his own words: "Experiences are real, and they are as they appear to careful introspection. They are a distinctive kind of beings. They are substances having stuff in them. They exist: and, as we have shown, they cannot be regarded as mere qualities of anything else, be that other thing matter or what you will. But, say you, if they are substantial, they are not self-existent substances; and it is true that they are not. They must exist as parts of a unity, and the existence of all of them in a unity through time (though perhaps with intervals) *is* the soul, the psychical substance. There is no content of the soul other than experiences, and the permanent elements in experiences, such as they are, are too little to be a self. But the soul is neither an aggregate of experiences, in themselves loose and disconnected, nor is it a unity of qualities. It is a unity of experiences; and there must be a soul, because it is part of the being of any experience to form part of such a unity" (p. 360).

To speak frankly, in spite of repeated study, I have not been able to banish the doubt that this theory of the unity of the soul is so abstract

as to be purely verbal. But the reason for this doubt will appear below.

Apart from this doctrine of the soul-substance, the two most striking and debatable of Professor Laird's theories are to be found in Chapters II and III, in his analysis of experiences and in his account of the relation of the body to the self.

The "being," as Professor Laird likes to say, of all experiences is to refer to objects. Objects are *for* the self, experiences are *of* it. Over against the objects there are the mental acts of reference to them. This reference to objects is "the only common characteristic of that which is psychical" (p. 33). This analysis fits cognition best. In cognition the act is "always mental, always an experience, and a part of the self" (p. 20). The object need not be, and generally is not, mental. The same analysis applies to feelings and strivings, and Professor Laird's final formula is "endeavor is *guided* [towards an object] by cognition and *prompted* by feeling" (p. 39).

This position bears much resemblance to that of English neo-realists like Alexander and Bertrand Russell. Whatever one may think of it on its merits, I cannot agree with Professor Laird that it rests on 'introspection.' In the first place, the arguments (pp. 18–20) by which Professor Laird supports it do not seem to me to be specifically introspective at all. But, in the second place, his defence of introspection against criticisms ignores the chief difficulty, which is indeed barely mentioned in the literature. This difficulty has nothing to do with the possibility of observing experiences whilst one has them, or the impossibility of observing the experiences of others. No, the chief difficulty is that the introspectionist has no results which he or others can use scientifically, except so far as he puts them into *language*. But what dictates or determines the language he employs to describe his findings? What makes the difference between a true and a false report? Bradley relies on introspection as much as Professor Laird, yet Professor Laird has to acknowledge that Bradley's use of 'feeling' differs from his own so widely as to make any fruitful comparison of their results almost impossible. The introspectionist is in the paradoxical situation of fixing his private data by the help of public (or social) signs and their meanings. But so long as the same signs are used with such widely different meanings in application, what profit is there in claiming that introspection settles anything in particular? The "raw, unverbalized" data, to use James's phrase, do not prescribe any one description rather than any other. They suffer Professor Laird's "act" and "object" as patiently as Bradley's "immediacy"

and "idea." The question which is the better, in fact the true report surely depends on a vast context of theory in which such descriptions are supported as much as they support. Thus I should urge that no introspection, however innocently and without theoretical prejudice it be undertaken, delivers to the investigator the result that something is to be called 'mental' and something else 'non-mental.' Such labels are not discovered by introspection. They are dictated by the theoretical prepossessions which the innocent investigator brings with him. But 'mind' means so many things in different contexts, that we need not wonder if what is the whole of a mind to Professor Laird seems a mere abstract fragment of a mind to others.

Concerning the body Professor Laird defends the thesis that it is not part of the self, though it is the self's most constant object and, in a sense, also its instrument. Just as for the "external sense" the body is a visible, tangible object like any other, so "the objects of the internal sense . . . are really parts of the body, and therefore are *not* parts of the self" (p. 51). Thus the James-Lange theory of emotions confuses bodily sensations with psychical experiences. The logic of the argument turns on the introspective difference between act and object. Self = soul, and soul is not body, for body is an object and as such, different in principle from an act of awareness.

The argument, of course, carries no conviction to any one who denies the distinction, or interprets it differently. From this latter point of view, and considering Professor Laird's claim to have kept "both the earlier and the more recent literature constantly in mind" (p. v), it is the more remarkable that he should have ignored the position of behaviorists in general, and of such American neo-realists as R. B. Perry and E. B. Holt in particular. Both these latter hold that the activity involved is that of the central nervous system, and that the so-called introspection reveals only objects of response.

Moreover, one does not need to be either a behaviorist or a neo-realist in order to feel that Professor Laird's account of the self is Hamlet with the Prince of Denmark, not exactly left out, but sicklied over with the pale cast of thought to the point of virtual extinction. Yet there are traces of a more full-blooded view. "Are the men," we read on p. 94, "whose lives radiate out towards other things and other persons less really selves than those who try to shrink into some unapproachable crevice of private being? Surely the facts are otherwise. To understand the self it is best to go outside it and consider its influence and the range of things which it contemplates." This is part of an argument designed to show that the self cannot be mere

feeling. But Professor Laird practices his own prescription only to the extent of including will and cognition in the self. Into "influence and range of things" he never really enters. He comes very near to it when, *e. g.*, he says: "The mind grows as the objects revealed to it grow. It is not more of a unity than what it knows, nor is it less of a unity. It does not overlap its object but is coextensive with that object" (p. 223); or again: "An experience is a reference to an object . . . it varies as the object varies, and to define it, or to think of it, without reference to its specific object is plainly impossible. . . . Our private experience shows itself in the things and events to which it refers. These things and events are not ourselves, though we would not be ourselves unless our experiences were directed to them" (p. 247). All that he says in Chapter IX about the cognitive unity of mind being logical, or about sentiments being organized in systems which center around objects, to my mind cries out aloud for a treatment of the self in terms of the range of content of which, as Bosanquet would say, it is the focus. The distinction of act and object reveals its most fateful consequence when it compels Professor Laird to forego this opportunity of dealing with the self as a 'concrete universal.'

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*Nietzsche, The Thinker.* By William M. Salter. New York, Henry Holt and Co., 1917.—pp. x, 539.

Perhaps the most melancholy phase of the storm and stress through which the English-speaking peoples have been passing is the Nietzsche horror which seems to have taken possession of them body and soul. It was not so long ago that Mr. Gilbert Chesterton, with that finality which so easily besets him, told us that the 'superman' makes any discussion absurd into which he enters, and most of us were well pleased with this sign of robust English sense. We were told that art is the last refuge of the overman and, never having taken art seriously, we were content that he should roam there in a land of unreality where he could do no harm. Apparently the superman did not have to wait long for his revenge; and if recently he has actually been making almost every discussion into which he enters absurd, it is not in just the way Mr. Chesterton supposed.

It is most fortunate, therefore, that, with this tendency to hysterical judgment, which has not spared even scholars and philosophers, we have Mr. Salter's book on *Nietzsche, The Thinker*, in my mind destined to become the nearest approach to an authoritative work on the subject in the English language.

Needless to say, the superman is not absurd as presented by Mr. Salter. Neither is he a terrible figure. The author's occasional articles on Nietzsche have prepared us not only for a scholarly but for a thoroughly sensible treatment. The book was written in substance before the present war, "with no thought of such a monstrous possibility," and to the author it appears principally as the outcome of general European tendencies which Nietzsche opposed. In his calm way Mr. Salter tells us that: "As the word itself [superman] is formed most naturally, we often speak of superhuman excellencies and qualities, so the idea is entirely natural . . . nothing but the crystallization of the thought that man can develop beyond the present stage of his existence and hence should." It seems to him in the main quite reasonable to say that Nietzsche "finally settled down to thinking of supermen simply as extraordinary specimens of men, who, however, if favored instead of being fought as they commonly are, might lead to a considerable modification of the human type." This is typical of the entire book and it is for this reason that I have quoted it.

Mr. Salter, like a reasonable man, tries honestly to understand Nietzsche rather than to refute him. Like a reasonable man again he assumes that there is method in his madness and that it is better to assume him to be sane, logical and systematic in a normal degree until the opposite has been proved. Nietzsche's own wonderfully brilliant and epigramatic style has usually proved to be an irresistible temptation to his critics to try to treat him in the same fashion. His so-called megalomania and his occasional assumption of singularity have too often imposed upon them and led them to think of him as a portent to be exorcised rather than a phenomenon to be construed. Mr. Salter steadfastly resists both temptations. His own style is colorless enough to form a perfect medium; his essential reasonableness is proof against superstition.

So far as the general plan of the book is concerned, the selection and distribution of the 'stuff,' there is nothing especially noteworthy, although it is wholly scholarly and adequate. It follows the well-worn path of spiritual chronology. The generally recognized three periods of Nietzsche's development are followed, and in each case the general 'world-view' is sketched and the fundamental changes in æsthetic, moral, social and political conceptions noted. Though disclaiming in any sense to write the story of Nietzsche's life, the author gives us all that is necessary to understand his thinking. Fifty pages of notes at the end increase the value of the work for the scholar, and some of them contain valuable information and suggestions. The book is provided with a good index.

The part of the book for which the philosophical reader will doubtless be most grateful is the tracing of the epistemological and metaphysical views through the three periods. Is Nietzsche a philosopher at all in this sense? With Bethelot, Beyer and Vaihinger, Mr. Salter believes that he is.

Nietzsche was, of course, as Mr. Salter says, never a materialist. He was also never either a realist or an idealist in the ordinary sense of these terms. He even asserts that the questions of idealism and realism, in the epistemological sense, relate to a region where neither belief nor knowledge is necessary, a sort of nebulous swamp-land beyond the reach of investigation and reason, and pleads for our becoming good neighbors to the things that lie near. Realistic implications there are, even in this statement, idealistic implications in his entire estimate of common sense and science. But the view that he ultimately comes to in the third period, after the "Artisten-Metaphysik," of the first, and the anti-metaphysical positivism of the second period, is, as Mr. Salter clearly sees, the result of viewing the whole problem of truth and reality from a new angle (p. 191). There is nothing so banal as taking the 'will to power' as primarily an ethical standard. With Nietzsche it is primarily an interpretation of reality. It is scarcely less stupid to subsume the 'will to power' under the categories of materialism and spiritualism—the categories of a second rate, bourgeois, philosophy. These are things "we must learn not to say of reality," as Nietzsche himself says. 'Plump' is truly the only word to describe the treatment Nietzsche commonly receives in his philosophical no less than narrowly ethical conceptions. Mr. Salter sees, as few others have, that the whole problem is viewed from a new angle—one involving nothing less in fact than the abandonment of the existential for the value point of view. How successfully he carried it out is of course another question.

"When Nietzsche was little more than a name to me," the author confesses, "I had spoken of the idea of getting beyond good and evil as naturally landing one in a madhouse." That which distinguishes Mr. Salter's book beyond everything else is his present grasp of what I might call the 'method in Nietzsche's madness.' His repentance has been to good purpose, for I know of no one else, unless it be Simmel, to whom he refers repeatedly in the highest terms, who has grasped it so completely.

He recognizes, in the first place, that the inmost psychology and driving force of Nietzsche's ethical and political thinking is his innate reverence. His is a critique of all reverences, but if he despises, it is

because he has not forgotten how to revere. He quotes as a characteristic saying of the second period, "No, there is no law, no obligation of this sort. We must become traitors, practice disloyalty, surrender our ideals." But there is always a higher loyalty, a higher ideal, that gives this negation force. In the second place, there is Nietzsche's method of exaggeration. Nietzsche believed in the magic of extremes to bring out the truth, the allurement that goes with all daring to the uttermost. There is, finally, his test of truth in such matters—the ability to hold out, the ordeal by fire. He wished his own philosophy to advance slowly among men, to be tried, criticized and, if need be, overcome.

Now it is quite clear, of course, that such a man will either be laughed at or hated by the crowd. It is equally clear that the ordinary philosopher will be puzzled to know just what to do with such a method. On the other hand, it is entirely possible that this is just the method, and the only method, by which the inmost truth of values may be reached. This, if I understand him, is Mr. Salter's position. Accepting this method, then, he seeks to estimate the net result of this venture "beyond good and evil." Recognizing that "few thinkers may less safely be judged by single utterances than Nietzsche," he conscientiously sets one utterance against the other, and by a process of compensation, so to speak, arrives at a fairly just estimate of the net result of his thinking on moral questions. It is by no means as sensational as we ordinarily think.

So far as the negative and critical aspect is concerned, you get a picture that does not greatly differ from that which a Frenchman like Anatole France, or still better, Paulhan, in his *La Morale de L'Ironie*, gives us; only, whereas the Frenchman is content to call conventional morality tactless, Nietzsche calls it by harder names. And as for the positive side, we are in a bracing atmosphere entirely lacking to the other 'immoralists,' so called. Far from being a "destruction of morality, root and branch, it is rather, the whole procedure"; as Nietzsche says, "only morality itself turning against its previous form." Not only was this critic of all reverences deeply reverent; it was his fortune, or misfortune, to have the 'instinct for perfection' to an extraordinary degree. Simmel calls his ethics Personalism, and his adherence to the central principles of 'idealistic' ethics is no less certain than his abhorrence of hedonism and utilitarianism. How Mr. Salter makes this general idea clear in the details of Nietzsche's ethical and social views must be left for the reader.

The ordinary reader will doubtless have the feeling that he has been

robbed of something, in that all that is most terrible and absurd has been taken out of Nietzsche's conceptions, and he will hardly recognize in them, perhaps, the ideas that dazzled and distressed. I am disposed to believe, however, that Mr. Salter has given us a truer picture of Nietzsche by his method of compensatory interpretation. He has made us all poorer, perhaps, by robbing us of our dearest antipathies, but infinitely richer in the belief which gradually emerges, that there is a right reason that shapes our thinking, rough hew it though we may. It is an uncomfortable thought that a brilliant mind, animated by the sincere love of truth, could go completely astray. It savors too much of the old doctrine of original sin.

I have not been able to resist the impulse to write in a strain which harmonizes little, perhaps, with the ideal of a sober review. My desire to praise is partly an expression of personal obligations to the book, but still more of an impersonal recognition of the more excellent way in scholarship and thought. This does not mean that the book is without the defects of its qualities. The 'fruit of lonely ways and studies,' it often bears the marks of extreme detachment. Seeking to understand Nietzsche rather than to refute him, Mr. Salter often finds method and system where, with the best will in the world, it is a little hard to follow him. "The way here is labyrinthine—I have come near being lost in it myself," is the author's own candid confession at several points. I am quite sure that he has over-simplified at points, but he always lets Nietzsche do most of the talking and this brings with it its own corrective.

On a more fundamental point I would take issue with Mr. Salter's interpretation of Nietzsche. It is his contention that Nietzsche is to be understood only as an *opponent* of the dominant forces of his time. I think he has made out a strong case in the main. Nietzsche's opposition to economic imperialism, nationalism and crude egoism was as whole-souled as his opposition to socialism, hedonism and vague altruism. In a very real sense he was above these distinctions, as he was above the crude, inept and, as Paulhan says, tactless distinctions of good and evil. In many ways he was more mediæval than modern, in others he undoubtedly belongs to the future. But in a deeper sense Riehl is nearer right, I think, when he describes him as the "résumé of modernity."

"To have run through the entire circle of the modern soul, to have gazed into every one of its corners," that was, as Nietzsche himself said, "his ambition, his torture and his joy." But not only this. Precisely in his eternal seeking and questioning, in the contradictions

of his moods and intuitions, in his very self-tormenting, he becomes for us the mirror of our own souls. That is certainly not mediæval. It is also, we may hope at least, not to be the characteristic of the future. It is a mark of dissociated personalities, as indeed most of us are. He is indeed a résumé of modernity, but in that he has epitomized it, he has perhaps at the same time completed it and may help us to go beyond it. So at least we may hope.

In a note Mr. Salter suggests that the low level of American culture can be measured by our failure to understand Nietzsche. I am tempted to agree with him, although he includes me among those who live on this low level.[1] If there is one thing that this most revealing time has disclosed, it is that the day of the "Innocents Abroad" is, alas, not passed, despite our superficial acquaintance with *vers libre*, futurism and Nietzsche. Our abyssmal ignorance, not only of the cultural, but of the political forces and tendencies of modern Europe is painfully evident in the mass of literature which the war has produced. It is doubtless too much to hope that this book will have any great effect upon the "Nietzsche nonsense," as Bernard Shaw calls it. Those who have caught the germ will hardly look in this direction for an antidote. It is none the less comforting to know that American scholarship and culture cannot be in such a 'parlous' case if it can thus provide its own cure—in Mr. Salter's book.

So far as a general estimate of Nietzsche is concerned, Mr. Salter is very guarded. But in the introduction he makes a statement which will doubtless cause some of his readers to rub their eyes and perhaps put down the book without reading further. "I do not wish to prophesy," he says, "but I have a suspicion that sometime, perhaps at no very distant date, writers on serious themes will be more or less classified according as they know him or not, that we shall be speaking of a pre-Nietzschean and a post-Nietzschean period in philosophy, and particularly in ethical and social analysis and speculation, and that those who have not made their reckoning with him will be as

[1] The article of mine which Mr. Salter takes as a frightful example of the state of culture in America is an *Atlantic Monthly* paper entitled "Tubal Cain: The Philosophy of Labor" (December, 1912, p. 789). He finds it rather sad that "scholars as well as others sometimes take these [industrial] magnates as exemplifications of Nietzsche's superman." I can only say that I should find it equally sad and curious. As a matter of fact, I nowhere referred to Nietzsche, but simply contrasted what I called the morals of the "Overman" with those of the "Underman," as expressed in Syndicalism. I had no intention of identifying the overman of our industrial world with Nietzsche's superman. They have indeed very little in common. My only point was to find two characteristic names for two types of morality, or immorality, which are, alas, as real as they are threatening.

hopelessly out of date as those who failed similarly with Kant." That sounds like another perfect Nietzscheite, but it is far from it, as I hope this review has indicated.

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*A History of Mediaeval Jewish Philosophy.* By ISAAC HUSIK. New York, The Macmillan Company, 1916.—pp. 1, 462.

The measure of influence exercised by Greek philosophy on mediæval thought may be estimated from different points of view. It furnished apologetics with a powerful weapon of defense. With its aid church, synagogue, and mosque were able to demonstrate the rationality of that special revelation they claimed to have received, and the superiority of each system over its rivals could be proved on the ground of greater harmony with reason. But it also gave an impulse to independent speculation which carried some of the bolder thinkers to positions far in advance of those reached in the recognized canons. There was a distinct progress of thought as well as intellectual training. That a danger lurked in thus measuring the contents of revelation by rational standards of pagan origin was keenly felt by many Moslems, Jews, and Christians. Such, however, was the assistance rendered by the new ally in the defense of the faith that it could not be dispensed with, and the power swayed by men like Averroës, Maimonides, and Thomas Aquinas over the intellectual life of the middle ages marks the extent of the victory won by Aristotle. The ephemeral value of scholasticism to the apologetic interest has too much overshadowed its more permanent services to the emancipation of the human mind. Moslem philosophy has likewise been too exclusively looked upon as a mere channel through which Greek thought found its way to fertilize the fields of dogma. In spite of much painstaking research and many illuminating discussions, its intrinsic worth has not been fully appraised, and its relation to Aramaic thought expressed in translations and commentaries is yet obscure. Judaism was deeply impressed by the currents of thought in the Moslem world. Here also there were notable gains beside those harvested by apologetics, and the question of the native increment possesses a fascinating interest.

Professor Husik has written a history of Jewish thought in the middle ages upon the ultimate problems of life. He is admirably equipped for this task, and the work is a valuable contribution to the history of philosophy. Ample erudition, critical ability, and a rare capacity

for lucid exposition are everywhere in evidence. It would be well if we could have a description of Christian scholasticism and Moslem philosophy so competent, discriminating, sympathetic, and in the best sense popular. The book naturally invites a comparison with Neumark's *Geschichte der jüdischen Philosophie des Mittelalters* (Berlin, I, 1907: II, 1910). Professor Neumark's work is not yet completed; but the two volumes that have been published indicate with sufficient clearness its character and what may be expected. It is marked by extensive learning and an earnest effort to trace the ideas that occupied the minds of Jewish thinkers in the middle ages, so far as possible, back to the Talmudic and pre-Talmudic periods. The second volume is wholly devoted to this, and there is much that is promising and valuable in this endeavor to dig down to the roots in native soil. Professor Neumark does not possess the unusual ability to organize his material or the graces of style that give such charm to Professor Husik's work. Nevertheless, one cannot help feeling that the excellent introduction to the latter, with its clear analysis, its pregnant sentences, and its illuminating touches, in this respect is all too brief, and leaves the reader's interest stimulated rather than satisfied. How are the ideas struggling for expression in Jewish Hellenistic literature, the wisdom-books, the apocalypses, and the Hagada related to the mediæval speculations? What is the true place of Philo in the development of Jewish thought? To many students, occupying widely different standpoints, his philosophy appears as an altogether exotic plant. Eduard Schwartz, admirer of classical plasticity and admirable stylist himself, in words that are less than fair and seem to betray a bias, disposes of him as a rabbi dabbling in things he does not understand. Émile Bréhier, master-workman in the field of Hellenistic speculation and subtle analyst, with deeper insight and a finer appreciation, assigns him a notable position in the realm of later Greek thought. The rabbis until recent times appear to have been ignorant of Philo; to them he also was a foreigner. There was no resentment on their part because of the heavy debt the church owed to him in the upbuilding of Christological dogma; of this they knew as little as the church itself. The greatest and most influential of early Jewish philosophers fell a victim to the prejudice against Greek speech and Greek speculation which, however regrettable in many ways, undoubtedly helped to save the life of Israel. Was the ignorance of Philo as complete as it seems? Were there no underground passages through which his contributions, without the card of the giver, could pass to later Aramaic or Arabic-speaking generations?

The answer to these questions largely hinges on another. Was the greatest of Egyptian philosophers, Plotinus, some of whose works under the false title *Theology of Aristotle* so profoundly affected the thinking of a number of Jewish philosophers, consciously or unconsciously influenced by Philo? The evidence may be scant. But the patient research that goes into the by-ways and the hedges, and does not always follow the beaten track, has its merits. The hewer of stones in the quarry renders a service as essential as that of the finished artist.

Professor Husik plunges *in medias res*. That is no serious fault. The impatient remark to the academician who was inclined to stop at too many stations on his journey from the beginnings of things to the immediate subject in hand "*Passons au deluge!*" does not apply to him. Let it not be imagined, however, that he is not fully aware of the continuity of thought and the problems of transmission. Nor has he any penchant for running through open doors. Even when he deals with the best known Jewish philosophers he is a scribe bringing forth from his treasure things old and new. There is not only much that is fresh in his reinterpretation of Maimonides; he has added by his own researches to our knowledge of the influence exerted on Christian thinkers by this greatest of Jewish mediæval philosophers. It is an extremely delicate task to gauge the precise effect of a philosopher's thought or a prophet's word. The very spirit animating him, essentially the same mental and moral proclivities, may, in a different environment, produce entirely different manifestations. Professor Husik suggests that were Maimonides living in our day, we may suppose he would be more favorably inclined to the mechanical principle as a scientific method (p. 276), but also that he would probably still object to the eternity of the world and mechanical necessity on religious grounds (p. 274). This has a certain family likeness to the attempt at defining what the attitude of Jesus would be, were he living to-day, on such questions as prohibition, marriage and divorce, Marxian socialism, evolution, Christian Science, or the 'multiverse' of William James. If Maimonides could have continued to live to the present day, preserved his independence of mind and eagerness to learn, and become 'more favorably inclined to the mechanical principle,' there would seem to be nothing to forbid the assumption that he might also have greatly modified his views on the Bible, miracles, and prophecy, perhaps even on the Aristotelian categories and the nature of ultimate reality. It is intimated that Maimonides shared the view of Averroës that there is no individual immortality(p. xlvii).

Though powerfully affected by his thought, Gersonides gave up the belief in a *creatio ex nihilo*, which, for that matter, is not taught in Genesis i.

The treatment of the Karaite thinkers, Joseph al Basir and Jeshua ben Judah, is fair and appreciative. "There are no mediæval Jewish works," the author says, "treating of religious and theological problems in which there is so much aloofness, such absence of theological prepossession and religious feeling as in some Karaite writings of Mu'tazilite stamp." There are no echoes of the bitter strife: the old battle flags have been furled. Goldziher published in 1907 an Arabic treatise on the soul, which was attributed on the title page to Bahya. Professor Husik gives a good account of this work. The ascription is obviously false, and the chapter devoted to this writer is headed 'Pseudo-Bahya.' Platonic influence is strong. It is of particular interest to notice that, like Plato, Pseudo-Bahya locates the rational soul in the middle of the brain, while according to him the vegetable soul has its seat in the liver, and the animal soul resides in the heart.

Eighteen philosophers are given each a chapter. As they dealt with the same problems in the main, and the phraseology of necessity was to a large extent identical, a considerable amount of repetition was scarcely to be avoided. But the author has understood how to introduce a pleasing variety in the presentation of their views. Comparisons, summaries, and helpful observations on the general trend of thought avert the peril of monotony. The reader's interest is never allowed to flag. The *Notes* are put at the end of the volume, a concession to people who lose the connection, if they have to look now and then to the bottom of the page, or, like Carlyle, hate footnotes on æsthetic grounds, and probably an inconvenience only to serious students who want to see the references without unnecessary loss of time.

It does not seem hazardous to venture the prediction that Professor Husik's book will long remain the standard work on the subject with which it deals.

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*Organic to Human—Psychological and Sociological.* By HENRY MAUDSLEY, M.D. London, Macmillan and Co., 1916.—pp. viii, 386.

"This book," according to the author, "was written to employ the writer in work which might occupy the time and ease the burden of the dreary decline from three to four score years" (p. vii). It is the retrospect of "disillusioned old age." This, too, is entitled to its say. "Having experimentally proved and therefore vitally felt the vanity

of vanities of mortal things (which full life repeats by rote but never really wishes or wills to feel), it may, as a spectator of and no longer actor in them, judge sometimes more justly than younger life eagerly interested in its active doings and deeply impressed by their and its importance" (p. vii). Each stage of life and each temperament has its own view of life's value. "The succeeding changes of feeling through life's changing seasons and shifting scenes respond exactly to the succeeding fluctuations of vital energy—to the earlier addition to and later subtraction from life and to every morbid perversion of its process. In youth, flushed with the vital force of growth, buoyant exhilaration, jubilant activity and cheerful outlook prevail, life and hope forefeeling and pressing on to the future; in maturity, when there is a balance of forces, gravity of thought and motion rule; in old age, when the destructive forces preponderate and a gradual decline takes effect, sluggish dejection of thought, feeling and movement ensues, for every day is then a gradual subtraction from life which, hope extinct, lives only or mainly in the past" (p. 63). To ask which has the truer view of life, youth or old age, the life-flushed optimist or the gloomy pessimist, "is a futile question, either view being fit and true for the person who holds it" (p. 362). While the author cannot help feeling that the melancholy temperaments are the ones "in which reason rules and pushes to its logical extreme," he also recognizes that it is not by these "but by the optimistic temperaments in which the unreflecting impulse of feeling is joyous and active that the future progress of the race can be effected" (p. 363). Hence it is natural for the optimist to look down upon the pessimist.

We must not be misled by the term progress, however, which is used more in irony than in earnest. The author spurns all teleology. Natural and unnatural are "only static human concepts of the dynamic flux of nature in which the 'What is' always imports the 'Whence' and the 'Whither.' Things morbid are just as natural as things not morbid, though life is loth to think so" (p. 34). All happens according to "the fixed law of the vital flux." Human thought is prone to assume the evolution of itself as the sufficient purpose and to interpret the universe in its own anthropomorphic terms, thus apotheosizing itself. "Man believes that he can do the universe no greater honor than to attribute his limited notion of purpose to its illimitable and unscrutable processes and having done so to glorify himself accordingly" (p. 153). But "it is more than probable that nature's work, purposive or not, is not to interpret itself in terms of human thought but to interpret human life in terms of itself" (p. 35). In relation to

absolute, eternal, and infinite being "it is absurd to speak of prevision, purpose, time and space." Human life is but part of the waxing and waning cycles of vital impulse which as it is born out of nature, so shall it find its grave in nature's womb. Paleontology offers numerous instances of species which have perished partly from internal changes, partly from environmental selection. The author seems to take grim satisfaction in that "supreme irony of nature" when man "should in the decree of unknown fate fall a victim to the microscopic microbe" which perhaps his "pleasant vices" have engendered to slay him (pp. 183, 184).

In the meantime, while life moves on to its futile end, "the bright star of the right ideal—for ideals are far from being always right—will be necessary and useful to incite and guide human travel onwards" (p. 148). But the author furnishes no criterion of right ideals. Indeed the uprush of vital impulse must always believe in itself. "When does superior strength of lusting life ever fail to inspire belief in its superior worth?" (p. 133). This is as true in national as in individual life. "The simple truth is that human history is a positive demonstration of the lust and strength of the will to live, not motivated either rationally or morally—of the fundamental vital movement in human form; the glorification of a life of meekness, humility, love of enemies and the like self-abasements, an impracticable gospel of lowliness and weakness which, had it been put in practice, would have been the deterioration and probable extirpation of the person, tribe or nation which made the experiment" (pp. 35, 36). But if ideals are merely the reflex results and adumbrations of vital impulse, they still have their function for the time being. "It may be that beneath all this lauded civilization there is a lurking doubt of its value, perhaps a deep instinct of the final nothingness of human life. Be that as it may, the ever-craving, ever-seeking, ever-hoping vital struggle to attain ideal truth and happiness will evidently persist while organic energy lasts in vigor, even though it be only a splendid illusion; will continue, too, to evoke and promote the progressive adaptations of aspiring life to fuller being and therewith changing truths. But why then call the yearning an illusion? As a mentally evolved reality it does its useful work in human evolution until its force is spent" (pp. 95, 96). Idealism and realism are both merely phases of this process, idealism being the consciousness of the exuberance of vital impulse, while realism emphasizes the inertia which must be overcome.

What is the place of mind in such a world? The author rejects, as one would expect, the notion that mind is an entity. Instead of mind

he prefers to say "life-in-mind." "To receive from without through sense and to react by fit movement is the structural basis of mental life; it is to grow in continuity and unity with nature by mutual union and interaction" (p. 11). "The progressive mental organization of man consequent to the number, variety and refinements of the actions and reactions between his organism and its environment—in the case of speech, for example, so wondrously fine, many and various, where out of twenty-four letters of the alphabet such a multitude of words in different languages are formed—marks the persistent energy of the vital plasm in him, its impulse inciting his aspiration and endeavor to apprehend and comprehend, which is to grasp and assimilate ever more and more of the ultimately inapprehensible and incomprehensible" (p. 12). The author's view would be characterized as physiological materialism. "The real truth, as the so-called materialist holds, is that it is exquisitely fine cerebral structure which performs the fine mental function, not the attribute consciousness, as those suppose who speak lightly and loosely of its directing and controlling mental states" (p. 76). Consciousness merely dances "attendance on the grotesquely incongruous yet sometimes congruous events of the unruly function without the least surprise, resentment, protest or control: a notable uprising of physiology into psychology by continuity of being" (p. 76). As regards the continuity of life-in-mind in the race the author adopts an extreme form of Lamarckism which seems to have found favor with some contemporary psychologists. He compares instinctive inheritance with the capitalization of mind in the realm of social invention and contrivance. "It is in like manner that the intelligent instincts of animals represent the silent memories of past habits of acquired function grafted in structure, and that the innate capacities and aptitudes of human intellect signify the quintessence of immemorial consolidate adaptations transmitted as unconscious mind by heredity" (p. 86). Hence it is no wonder that he finds in the organisms, such as the spider or bee, an unconscious wisdom which infinitely surpasses human reason. It would seem, however, that this capitalized wisdom is capable from the author's point of view of running amuck, as for example in the extreme socialism of the beehive which completely subordinates the individual to the hive; and the author has misgivings that there is a tendency in human history to the social hive (p. 194). Being an individualist of the staunch aristocratic school, nothing irritates him as much as socialism of which he has the conventional conception.

As regards the function of thought, the author's position is frankly

anti-intellectualistic both in the moral and epistemological realm. "The illogical has deeper and stronger root in human nature than the logical. Inevitably so, seeing that his organic being whence feeling springs is a continuation of the organic life of nature, the unfailing impulse or nisus of which, working in and through him, is something that reason neither originates nor authoritatively rules, but must accept, regulate, direct, and make its rational adaptations to" (pp. 64, 65). Thus it would seem that "reason, though it does not impel, has its proper function to guide, direct and regulate the vital motion of socialization" (p. 117). But such a function the author himself recognizes to be futile. "Desire-born faith avails to produce belief" (p. 64), and reason is ever "forced to suspense or suppression in face of feeling" (p. 200). What actual morality there is must be found in "the collective obligation of the traditions, customs and national spirit which the thereby moulded individuals may not or dare not violate in practice" (p. 357). Hunger and lust are the deep motive forces of life, in spite of all our "sublimations or spiritualizations," though social feelings have a certain justification in making possible group solidarity (p. 154). The author, however, is out of sympathy with so-called social reform which seems to him to be a pampering of the weak and an attempt to level distinctions. "Life in its essence is self-seeking and self-assertive in all its forms, high and low, mental and bodily" (p. 337). Democracy is merely an illusion. "Having become a creed, democracy absolutely ignores reason and glorifies itself when it is such in name only, not even a rule by the people who are duped and dupe themselves with the word" (p. 350). Eugenism looks more foolish to the author than nature's chance breeding, nature being no respecter of intellectual pedigrees. One would expect that "if the uncritical heart witnesses to a deeper truth than the critical intellect" (p. 54), the author would at least tolerate the religious mystic. But not so. "The supernatural transports which he relishes as a partial foretaste of eternal communion are liable to be, if not delirious self-intoxication, at least debauches of delight which do no good to anybody but himself, even if they do as much as that" (p. 339). He does, however, recognize a therapeutic value in faith and prayer (p. 177). The author, while evidently having the consciousness of "the truly inspired pioneer," offers no constructive social program, leaving that evidently for another voice, reflecting "that it is what is said, not he who says it, which matters, and that in the end it will not matter what is said" (p. 337).

The end of the story is absolute relativism and agnosticism. "The

sum of the matter is that there is no human nature without outer nature, no outer nature as perceived without human nature, no outer nature to any creature, human or animal, otherwise than as it is mentally apprehended and formed by the percipient" (p. 371). It is absurd for man to imagine himself to be contemplating nature calmly from outside. His evaluations of it necessarily vary with his altered self and his knowledge is limited by his sense reactions and cerebral organization. He necessarily "plunges into a morass of futile speculations and assumptions when he goes on to construct a system of notions concerning what exists and happens beyond the range of thought . . . that which, being absolute, is avowedly non-relative, incomprehensible, ineffable" (p. 381). But it is useless for the philosopher to wail over his ignorance of the unknowable. He must learn "that his modest function is to do the best for himself while he is a transient self in his little corner of it and for his kind in the particular social environment in which his lot is cast" (p. 384).

I shall leave the reader to make his own criticisms. The author does not make any references to his contemporaries, and they probably were largely in the subconscious background of his mind. But the reader can see that the book capitalizes many tendencies of the age which the author lived through and in a measure outlived. In his grim frankness, he furnishes the *reductio ad absurdum* of a philosophy based on vital impulse. That in baring his mind, he has furnished material for the psychology of senescence cannot be denied. In spite of brilliant flashes of thought and expression, the structure of the book shows a noble mind in dissolution. But that his philosophy can be regarded as typical of senescence, as he seems to feel, is more than open to doubt. Certainly in many cases the will-to-believe grows stronger rather than weaker with age. The author's type of disillusionment must be regarded as the outcome of the subconscious tendencies which capitalized his thinking and feeling for a lifetime and which were released in the leisure of his waiting years of inactivity. In the meantime the distinguished alienist has been released from waiting and has passed into the great unknown. What perspective may be his now we do not know, but we are grateful for a life of brilliant achievement.

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# NOTICES OF NEW BOOKS.

*An Inquiry into the Nature of Peace and the Terms of its Perpetuation.* By THORSTEIN VEBLEN. New York, The Macmillan Company, 1917—pp. xiii, 367.

The author of this book remarks upon the relation of his own inquiry to that of Kant's famous essay, *Zum ewigen Frieden.* Throughout Kant's work, he tells us, "there runs a tenacious persuasion that, in the end, the regime of peace will be installed. Not as a deliberate achievement of human wisdom, so much as a work of Nature the Designer of things—*Natura dædala rerum.*" In our times, on the contrary, nature is "no longer allowed to go on her own recognizances without divulging the ways and means of her workmanship." The answer to questions how general peace is to be secured and maintained and the consequences likely to follow from its installation "is here sought not in terms of what ought dutifully to be done toward the desired consummation, but rather in terms of those known factors of human behavior that can be shown by analysis of experience to control the conduct of nations in conjunctures of this kind" (p. viii).

So much for Professor Veblen's program. The specific measures which he advocates for advancing the likelihood of a general peace at the present time are not easy to state adequately in summary, but appear to involve a league or alliance on the part of the more democratic and pacific nations, and the elimination of Germany as a future disturber of the peace. Such a league is, however, not in itself sufficient, without a change in the prevailing system of competitive prices and property ownership. So long as these latter arrangements are left untouched, the cessation of war between nations would almost certainly create conditions out of which would grow the war of economic classes. "So, if the projectors of this peace at large are in any degree inclined to seek concessive terms on which the peace might hopefully be made enduring, it should evidently be part of their endeavors from the outset to put events in train for the present abatement and eventual abrogation of the rights of ownership and of the price-system in which these rights take effect. . . . On the other hand, if peace is not desired at the cost of relinquishing the scheme of competitive gain and competitive spending, the promoters of peace should logically observe due precaution and move only so far in the direction of a peaceful settlement as would result in a sufficiently unstable equilibrium of mutual jealousies; such as might expeditiously be upset whenever discontent with pecuniary affairs should come to threaten this established scheme of pecuniary prerogatives" (p. 367).

The passage just quoted, with which the volume ends, is indicative of its general tone and temper, and enables one at once to recognize the type of

thinking which it represents. From a philosophical point of view, the interest in such works is less in the conclusions which they reach than in the categories that they employ and the assumptions upon which they proceed. Professor Veblen, as is well known, reasons with great force and clearness from his premises, and has an unusual command of epigrammatic phrases. Undoubtedly, too, in the course of his book he has said a great many true things, or things that would be true in a different context. But I venture to think that the book furnishes an excellent example of abstract and uncritical logic based upon an abstract and external view of life and experience.

I have quoted the passage from the author's preface, in which, distinguishing himself from Kant, he proposes to seek an answer to his problem "in terms of those known factors of human behavior that can be shown by analysis of experience to control the conduct of nations in conjunctures of this kind." What are these factors and what is the character of the analysis by which they are here discovered? To some extent the author appeals for support to the authority of Political Science, but he also refers in an off-hand and omniscient way to historical illustrations for confirmation, and also to his own interpretation of individual human experience and motives. I will quote a few of the sentences I have marked in reading the book. "By lineal descent the governmental establishments and the powers with which they are vested, in all the Christian nations, are derived from the feudal establishments of the Middle Ages; which, in turn, are of a predatory origin and of an irresponsible character" (p. 9). "In all cases, there stand over in this bearing certain primary characteristics of the ancient régimen" (p. 10). "Since the ethical values involved in any given international contest are substantially of the nature of afterthought or accessory, they may safely be left on one side in any endeavor to understand or account for any given outbreak of hostilities" (p. 23). "It [the national honor] is a highly valued asset, or at least a valued possession, but it is of a metaphysical, not of a physical nature, and it is not known to serve any material or otherwise useful end apart from affording a practicable grievance consequent upon its infraction" (p. 29). "Into this cultural and technological system of the modern world the patriotic spirit fits like dust in the eyes and sand in the bearings" (p. 40). In its economic, biological and cultural incidence patriotism appears to be an untoward trait of human nature; which has, of course, nothing to say as to its moral excellence, its æsthetic value, or its indispensability to a worthy life. . . . Indeed, its well-known moral and æsthetic value, as well as the reprobation that is visited on any shortcomings in this respect, signify, for the purposes of the present argument, nothing more than that the patriotic animus meets the unqualified approval of men, because they are, all and several, infected with it. . . . No higher praise of moral excellence, and no profounder test of loyalty, can be asked than this current unreserved commendation of a virtue that makes invariably for damage and discomfort" (p. 47). "The patriotic spirit, or the tie of nationalism, is evidently of the nature of habit, whatever proclivity to the formation of such a habit may be native to mankind" (p. 134). "The 'nation,' without the bond of dynastic

loyalty, is after all a make-shift idea, . . . and loyalty, in any proper sense, to the nation as such is so much of a make-believe, that in the absence of a common defence to be safeguarded any such patriotic conceit must lose popular assurance and, with the passing of generations, fall insensibly into abeyance as an archaic affectation" (p. 140). "The Spanish-American war, which was made in America, or the Boer war, which was made in England" (p. 204, *cf.* also p. 3). "So soon, or rather so far, as the common man comes to realize that these rights of ownership and investment uniformly work to his material detriment, at the same time that he has lost the 'will to believe' in any argument that does not run in terms of the mechanistic logic, it is reasonable to expect that he will take a stand on this matter. . . . And as happens where two antagonistic parties are each convinced of the justice of its cause, the logical recourse is the wager of battle" (pp. 364–365).

This string of sentences is not intended to give a summary of the author's views—which are commonplace enough at the present day among a certain school of writers—but the sentences are quoted as an illustration of how the facts of historical and individual experiences appear when looked at from a particular point of view, and in the light of certain assumptions that seem self-evident to an economic rationalist. It is not easy to state systematically this "whole nest of assumptions," but the center of them all seems to be the dogma that material goods, or goods incapable of being shared without loss, form the only rational and enduring ends of human endeavor. Other 'irrational' motives must indeed be recognized, such as 'patriotism,' but these are only incidentally induced habits, and in time, as man becomes better educated, their influence may be expected to decline. This of course leads directly to the view of society as composed of exclusive units, and to the dualism and opposition of classes which determine the nature of all social and political problems for this school of thinkers. These oppositions are made so absolute that for the author the view of the whole is lost. He sets the ruling classes over against the ruled, the leisure or gentleman class over against the workers, and finally, as the bottomless-pit dualism, we have the property class and the propertyless. In consequence, he is unable to think, or even to appreciate in terms of feeling, the value of the state as a unity with its instinctive rationality expressing itself in a whole system of unreflecting loyalties. Of the actual achievements of historical movements, which are just 'reason taking its time,' he is equally insensible. Of course, these things are foolishness to the abstract thinker sitting apart from real life, whose view of 'human nature' is constructed out of schematically conceived 'factors,' and who leaves out of account the one feature that makes life human and reasonable—viz., its capacity to overcome oppositions and reconcile antagonisms through its own internal growth and development. He is so engrossed wth the struggle of the economic classes that he is unable to see any political whole or to find any 'rational' justification for patriotic feelings. Thus he has no faith in historical development, but proposes to cure the ills of society by a specific rationalistic prescription. The limitations of the abstract planning intelli-

gence come out very clearly in such a book as this; we seem to have once more the atmosphere of eighteenth-century rationalism, its trust in abstract reason and lack of historical sense, its assumption that things have come to be through deliberate plan and intention. From the standpoint of the reason that seeks to comprehend the facts of life, not to construct them, there would still seem to be wisdom in the words of Lucretius—*Natura dædala rerum.*

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*La force et le droit: Le prétendu droit biologique.* Par R. ANTHONY. Paris, F. Alcan, 1917.—pp. 194.

The purpose of this book is to analyze and display the errors of fact and reasoning involved in the widely held opinion, alleged to be based upon biological science, that power is the basis of right. Though the author refers chiefly to German representatives of this view, such as Nietzsche and Bernhardi, the book was not written as a consequence of the War. Part of it was written before the War began, and the most important chapter (Chapter XII) had appeared as an article in the *Revue anthropologique.*

The first part of the book is largely devoted to establishing the meaning of terms. Though less interesting than the discussion of biological arguments which comes later, this part shows the difficulty of attaching any definite meaning, least of all a scientific one, to the proposition that might makes right. The saying either divests the word right of its normal meaning as applying to rights established by law or degenerates into the truism that a right which is the subject of contest is established only as a consequence of that contest. Otherwise, a claim to right based on alleged superior might is purely *a priori*, since, like Hobbes, the author holds that men are by nature nearly equal in their powers of destructiveness.

What is really intended, as a rule, by those who say that might makes right, is a glorification of power, and this is usually defended by reference to the rôle of natural selection in the formation of new species. In fact, however, the argument is entirely non-scientific, for it is impossible to extract any concept of idealized right from the facts and laws of science. More particularly, the argument commits the fallacy of confusing biological evolution with continuous and necessary progress. For the biologist evolution means merely progressive adaptation, and such adaptation may be quite contrary to what anyone would call progress. Even as regards adaptation, no biologist would claim that evolution shows continuous specialization. The most that can be said is that a given group shows progress up to a certain point in some particular type of specialization. It may be true to say that man has a more highly developed nervous system than the apes, or that some fishes have more elaborate swimming organs than others, but to say that man is in general more perfect than a fish is merely nonsense. M. Anthony is quite successful in showing that the protagonists of power in human development really have in mind a mystical philosophy of history which has more in common with the

Neoplatonic theory of emanation than with either science or evolution. It is unfortunate that he does not allude in this connection to the idealist philosophy of nature which flourished in Germany while the German notion of the State was taking form.

The remainder of the book is devoted to a more detailed analysis of biological facts bearing upon the relation between intraspecific selection and the survival of species. The author takes the position that such selection plays only an accessory part in evolution. He rightly urges that an intraspecific struggle (such as war) might give rise to forms which would be less well adapted in competition with other species, and he shows that there is at least some positive evidence that this is the case. His grounds for the conclusion are, first, the well-known paleontological generalization that groups often show extraordinary variability and specialization shortly before they become extinct,—specialization being accompanied by decreased plasticity in the face of new conditions,—and second, the probability that intraspecific struggle is especially likely to further specialization. The second point seems to be less well developed than its importance in the author's case requires.

M. Anthony does not deal with the more controversial questions about natural selection raised by theories of discontinuous variation and the factorial theory of inheritance. Indeed, he does not make entirely clear what factors in evolution he regards as proved, an omission which gives the biological parts of the book an air of being somewhat provisional. The problem of the biological significance of war can hardly be treated constructively without a complete theory of evolution and in particular a theory of heredity. The immediate purpose of showing the pseudo-scientific nature of the defense of war as a means of progress based upon natural selection is admirably carried out.

GEORGE H. SABINE.

THE UNIVERSITY OF MISSOURI.

*A Defence of Idealism.* By MAY SINCLAIR. New York, The Macmillan Company, 1917.—pp. 339 and appendix.

This is not a book which is to be dismissed lightly as the amateurish by-product of a successful novelist. To be sure, the greater part of the book is concerned with the recent, the fashionable, the popular. Samuel Butler, Psycho-analysis, Bergson, Pragmatism and the New Realism, Evelyn Underhill, Tagore and the New Mysticism—discussions of these topics fill up the bulk of the pages. One wonders not infrequently whether the cult of the new and the contemporary has not distorted the perspective of the past—and the present too. Here is a "defence of Idealism" which mentions Plato and Aristotle but incidentally, and in order to bring out what it is that they contributed to mysticism, *i. e.*, "Those people who *will* have it that Monism is the offshoot of Mysticism, a disease of thought reverting to a savage ancestry, should really read their Plato all over again, and Aristotle on the top of him . . . when it may become clear to them that Mysticism owes more to philosophy than philosophy could ever owe to it" (p. 245). One will rightly judge

and think that some of the deeper motives and convictions which have entered into the substance of Idealism will not receive here the attention which is due them. But it deserves to be said that although Miss Sinclair does dip into the historic stream of philosophical reflection only where it comes pretty much to the surface in the shape of the current and the fashionable discussions, nevertheless her plunge is complete and it is bold. Her discussions are subtle, closely reasoned, not infrequently profound and also vivacious.

A bare outline of the argument is about as follows. From a discussion of the Pan-Psychism of Samuel Butler it emerges that "we cannot explain or account for the most ordinary facts of our life and consciousness without presupposing that we have lived and been conscious before" (p. 22). But as against Butler it is urged that "unless the Individual carried through all his previous experiences some personal identity over and above that of his progenitors, their experience will remain theirs, and be no earthly good to him" (p. 22). Some recognition of the truth of this constitutes the "purified spirit" of psycho-analysis. "The reality that underlies its practice is the breaking of the spell of forgetfulness; the deliverance of the Will-to-live from its bondage to the Unconscious" (p. 9). What then is self, and wherein lies the secret of personal identity? Memory gives us no answer to the question, a thesis which is the outcome of the author's acute discussion of Bergson in Chapter II. The Animism of McDougall is vindicated as against Parallelism, but it appears from an examination both of psychology and of metaphysics that "the universe is not built up from the Life-Force in action upon matter alone; not from Matter itself alone; not from the Individual Self alone; nor from an Unknown and Unknowable alone; nor from Body and Soul alone; nor from Consciousness alone; still less from thought alone that lands you in the barren Absolute" (p. 126). One might suppose then that not anything alone will furnish a clew to the universe, and that Monism is disproved. But not at all. We are to search for a term which will include all of these and everything else. "But, if there were one term that would cover all these terms: Life-Force; Matter; Individual Self; Substance; Thing-in-itself; the Unknown and Unknowable or possible Third; Soul; Consciousness; Thought: the Absolute; one term which, besides covering all these, covers also that which has slipped away from them—Will and Love, that term, could we find it, would stand for the Reality we want. We want a term infinitely comprehensive, and perfectly elastic; and a term that does some modest sacrifice to the Unknown" (p. 126). Before expounding the modest mysticism which is to accomplish this, the author pays her respects to Pragmatism and the New Realism. For these tell her that her quest is meaningless and hopeless. In my judgment these are the two most satisfactory chapters in the book. She succeeds, I believe, in uncovering beneath these philosophies of Pluralism, an implicit appeal to something total and comprehensive. But she errs in supposing that Pragmatism is nothing but the older Utilitarianism come to life again. The motive and texture of Dewey's version of Instrumentalism, quite different from the James-Schiller brand, are not once mentioned. The chapter on the 'New Mysticism' is an

adumbration of that Reality which is to be so comprehensive and inclusive that nothing is left out. The reader who looks for the solution of philosophical problems is likely to feel that this is the least satisfactory. How far has one gotten in the understanding of Idealism, even as a philosophical doctrine, if one entirely omits all reference to the task of social reconstruction and the vision of social redemption? And what is it at bottom that distinguishes a mysticism based upon the search for life and the will to live and make live from a heathenism which Mr. Santayana has somewhere defined as the religion of will, the faith which life has in itself because it is life, and in its aims because it is pursuing them? Something of the mystic's vision and quest and experience does indeed enter into the historic synthesis of Idealism. But there has entered also the task of social salvation based upon a belief in the autonomy of certain values and ideals. We may be thankful to Miss Sinclair for this fresh statement of the unquenchable impulse to unity and life which so many current philosophies are content to ignore, and we shall not blame her for attempting more. But it remains true that the book is a defence of mysticism rather than a defence of idealism.

GEORGE P. ADAMS.

THE UNIVERSITY OF CALIFORNIA.

*Philosophy and the Social Problem.* By WILL DURANT. New York, The Macmillan Co., 1917.—pp. x, 272.

The ethical theory on which the argument of this book is based is that virtue is intelligence because intelligence gives foresight and makes possible the coördination of human desires. This is a well-known and perfectly respectable view, as old as Socrates, whom the author accepts as the fount of all wisdom in matters ethical. A good deal may be said for this view and the author says it with vigor and pungency. It is perhaps a pity that he accompanies his excellent defense of the Socratic principle with so much self-conscious swagger of extreme modernity and the inevitable contemptuous flings at benighted mid-Victorians.

The proper business of philosophy, according to the author, is social reconstruction: it should act as the mediator between pure science and social and political administration, formulating in the light of scientific discoveries, new ends and purposes which shall guide the process of social and political reconstructions. He selects for exposition five philosophers whose ideas seem to him to agree as a whole or in part with this conception of philosophy's mission, considering in succession "the Socratic plea for intelligence, the Platonic hope for philosopher-Kings, Bacon's dream of knowledge organized and ruling the world, Spinoza's gentle insistence on democracy as the avenue of development, and Nietzche's passionate defense of aristocracy and power." This thesis also has its merits and the author argues them with spirit and vivacity, giving many an interesting turn to his discussion of familiar philosophical systems. But here again it is regrettable that he spoils the effect of his own argumentation by much foolish ranting against the philosophies and philosophers of the

past, against "epistemologs," "Cartesian nonsense," etc. A writer who says that Hegel would have been surprised if he had found that any one was able to understand him and adds in explanation that "obscurity can cover a multitude of sins" makes a melancholy exhibition of his own philosophical scholarship.

In the arguments offered by Dr. Durant in support of the Socratic conception of virtue, the same absolute lack of historic perspective is revealed. The belief that virtue involves the subordination of selfish will to a universal ideal he denounces as a relic of theological superstition. Self-sacrifice he brands as a pious fraud; the conception of virtue it suggests as negative and feminine. The fact never seems to have come to his knowledge that intelligence must frequently wait for its data upon the results of actions which are in the fullest sense ventures, inasmuch as they are undertaken in response to demands as yet inarticulate and ideals whose practicability is yet to be demonstrated by the successful outcome of effort and struggle. He has still to learn the lesson of the Enlightenment, that when in our understanding of man and his social relations we limit ourselves to such facts as have already been established and can be clearly formulated, we condemn our moral and social philosophy to superficiality and early oblivion.

H. W. WRIGHT.

LAKE FOREST COLLEGE.

*The Greek Genius and its Influence.* Select Essays and Extracts. Edited with an Introduction by LANE COOPER. Yale University Press, 1917.—pp. xii, 306.

The editor of this volume, a professor of English, explains its main object as being to supply a part of the necessary background for the study of Greek and Latin masterpieces in standard English translations, and to stimulate and rectify the comparison of ancient with modern literature. It may well serve this purpose. It includes essays by such well-known writers on classical subjects as Newman, Jebb, Croiset, Boeckh, Wilamowitz-Moellendorff, Gilbert Murray and Gildersleeve, and poetical extracts from Milton, Shelley and Browning. The editor himself contributes a vigorous defence of the study of the classics in an introductory essay, in the course of which he defines the fundamental elements of the Hellenic genius as direct vision, a high degree of sensitiveness and an extraordinary power of inhibition. This may be compared with Croiset's characterization in the essay selected from him, namely, inquisitiveness, in the best sense of the term, in general, and in particular, keenness of intellect, plastic distinctness of conception, clearness in execution, individual liberty combined with regard for tradition, and friendliness to life. The emphasis in Mr. Cooper's analysis on the element of restraint is well grounded in the conception of classicism.

The selections deal in part with such general themes as The Legacy of Greece (Stobart), The Greek Race and its Genius (Croiset), The Nature of Antiquity (Boeckh), The 'Tradition' of Greek Literature (Murray), The

Greek Gift to Civilization (Wolff), Our Debt to Antiquity (Zielinski), and in part with topics of a more special character. The choice of the latter seems to have been somewhat arbitrary. At any rate it is noteworthy that while two deal specifically with the drama, one with the Attic Audience (Haigh), and one with the *Œdipus Rex* (Barstow), not a single one treats of Greek architecture or Greek sculpture or, strange to say, Greek philosophy, unless we except the paper by Miss Abby Leach on Fate and Free Will in Greek Literature, which, however, is hardly to the point. The point is the outstanding significance for any estimate of the Greek genius and its influence of Greek philosophy as a whole. Even Greek art and Greek literature are of less value relatively, at least as to them tastes may differ; but as to Greek philosophy, it may be said in sober truth, as has been said, that "with the exception of Christianity it is the most important thing that has happened to mankind in historical times." In this appreciation Greek philosophy, metaphysical, moral and political, should be taken, of course, in connection with the whole of Greek science. There are, to be sure, numerous references to Greek philosophy and philosophers in the volume; the index records nearly forty to Plato; it could not well be otherwise. But what is complained of is the incidental nature of the references and the lack of perspective which makes it possible to include as a 'background' for the study of the classics, even in translation, essays, delightful as they are, like Gildersleeve's comparison of Greeks and Americans and Chesterton's defence of Christianity against Lowes Dickinson's new paganism, together with purple patches from the poets, and find no place for anything comparable to, say, the illuminating and impressive Introduction to Burnet's *Greek Philosophy*. The omission is hardly to be accounted for on any other hypothesis than lack of interest in the subject, for there is abundant material to choose from, even allowing for difficulties with the copyright.

H. N. GARDINER.

SMITH COLLEGE.

*Educational Psychology.* By KATE GORDON. New York, Henry Holt and Company, 1917.—pp. vi, 294.

This book—intended as a manual for students of pedagogy in colleges and normal schools—is one of the recent attempts to apply the methods and results of experimental psychology to the practice of the schoolroom. The earlier chapters deal with growth in structure and in sensory and motor capacities. Typical discussions are those of the relation of absolute to physiological age, of work to fatigue, of the utilization of the instinct of fear and the love of play in pedagogical practice, of the rôle of the dance in the curriculum for young children, of the proper treatment of left-handedness, and of the advisability of direct practice in sensory discrimination such as is advocated by Madame Montessori. The middle section of the book is occupied with the more complex processes, such as memory, imagination and reasoning. The author points out in Chapter VII that the ways of learning, conventionally distinguished as separate methods ('trial and error,' imitation, the use of abstract

ideas) are more properly described as aspects of a single process. Kinds of imagery (visual, auditory, etc.) and various methods of memorizing are treated in Chapters VIII and X, respectively. In Chapters XI, XII and XIII the author enumerates and discusses certain conceptions of the process of reasoning: that it is the capacity to use symbols, concepts or abstractions; that it is classification and definition; the use of the syllogism; the substitution of similars; or an ideal experiment. In Chapter XIV Thorndike's theory that the possibility and extent of the transfer of training depend upon identical elements in situations is accepted with certain qualifications. The last three chapters take up some of the concrete questions in regard to the teaching of language, drawing, and arithmetic.

In part, as is evident, the book merely repeats the material common to the many genetic accounts of physical and psychical processes. But this material is here presented with a special object in view—that of illuminating the work of teaching—and it is from this point of view that one must judge of its usefulness. On the whole, it strikes one as a small encyclopedia, containing many useful tables of statistics, a long bibliography of articles and books, ancient and modern, on pedagogical subjects, and a mass of facts, sensible observations, and ingenious suggestions. Owing to the author's apparently universal capacity for appreciating all sides of questions, all aspects of processes, even the essential ones, seem in a measure to be included. But although the main point is never quite omitted, the unfitting confinement of it to a sentence or two in the midst of many pages devoted to subordinate details accentuates the impression of the collection rather than the systematization, and of the accidental rather than the essential. For example, we are told: "The question of the transfer of training is simply the central question of all education under a new name" (p. 218). This much taken alone leads one to expect the discussion of weighty matters, perhaps the effect of a predominately intellectual discipline on action, or of training in the humanities on the ability to handle specific situations, but the comprehensive question soon degenerates into such petty ones as how training in discriminating shades of red helps in the discrimination of shades of other colors. Again, although the type of memory which depends upon clear thinking is glanced at, the type which is essentially physical impression is the one enlarged upon. The sympathetic imagination which is the basis of morality and a main source of poetical inspiration is on the whole sacrificed in the treatment to particular mental imagery—a *quasi*-physical fact. Instead of emphasizing the concrete aspect of logic and its intimate connection with language, the author likens its problems to formal puzzles, and makes a diverting chart of colored circles to show that logical relations remain essentially the same, even if language is dispensed with altogether.

The author's procedure is inclusive and conciliatory rather than discriminating or penetrating. Her conclusions are almost always a combination or compromise, so that the reader goes away having tasted of everything but having been corrected or enlightened on little that is fundamental in education.

KATHERINE E. GILBERT.

The following books also have been received:

*The Philosophy of Benedetto Croce.* By H. Wildon Carr. London, Macmillan and Co., 1917.—pp. x, 213.

*Herbert Spencer.* By HUGH ELLIOT. New York, Henry Holt and Company, 1917. pp. vi, 330.

*Mysticism and Logic.* By BERTRAND RUSSELL. New York, Longmans, Green and Co., 1918.—pp. vii, 234.

*The Secret of Personality.* By GEORGE TRUMBULL LADD. New York, Longmans, Green and Co., 1918.—pp. ix, 287.

*Metaphysics of the Supernatural as Illustrated by Descartes.* By LINA KAHN. Archives of Philosophy, No. 9. New York, Columbia University Press, 1918.—pp. viii, 65.

*Idea and Essence in the Philosophies of Hobbes and Spinoza.* By ALBERT G. A. BALZ. Archives of Philosophy, No. 10. New York, Columbia University Press, 1918.—pp. 86.

*Le Subconscient Normal.* Par ÉDOUARD ABRAMOWSKI. Paris, Felix Alcan, 1914.—pp. 442.

*Les émotions et la guerre.* Par LE DR. MAURICE DIDE. Paris, Felix Alcan, 1918.—pp. 276.

*Les témoins du renouveau catholique.* Par TH. MAINAGE. Paris, Gabrie Beauchesne, 1917.—pp. 247.

*Storia della filosofia.* Parte Prima. La Filosofia Greca. Due Volumi. Per GUIDO DE RUGGIERO. Bari, Gius. Laterza & Figli, 1918.—Vol. I, pp. 242; Vol. II, pp. 244.

# SUMMARIES OF ARTICLES.

[ABBREVIATIONS.—*Am. J. Ps.* = *The American Journal of Psychology; Ar. de Ps.* = *Archives de Psychologie; Ar. f. G. Ph.* = *Archiv für Geschichte der Philosophie; Ar. f. sys. Ph.* = *Archiv für systematische Philosophie; Br. J. Ps.* = *The British Journal of Psychology; Int. J. E.* = *International Journal of Ethics; J. of Ph., Psy., and Sci. Meth.* = *The Journal of Philosophy, Psychology, and Scientific Methods; J. de Psych.* = *Journal de Psychologie; Psych. Bul.* = *Psychological Bulletin; Psych. Rev.* = *Psychological Review; Rev. de Mét.* = *Revue de Métaphysique et de Morale; Rev. Néo-Sc.* = *Revue Néo-Scolastique; Rev. Ph.* = *Revue Philosophique; Rev. de Ph.* = *Revue de Philosophie; R. d. Fil.* = *Rivista di Filosofia; V. f. w. Ph.* = *Vierteljahrsschrift für wissenschaftliche Philosophie; Z. f. Ph. u. ph. Kr.* = *Zeitschrift für Philosophie und philosophische Kritik; Z. f. Psych.* = *Zeitschrift für Psychologie und Physiologie der Sinnesorgane, I. Abtl. Zeitschrift für Psychologie.* — Other titles are self-explanatory.]

*Socrates and Plato.* J. A. STEWART. Mind, N. S., XXVI, 104, pp. 393–407.

This article is based on the last part of Professor Burnet's book, *Thales to Plato*, and considers the question, "How is Platonism likely to be affected in the near future, especially through the influence of his junior readers, by Professor Burnet's treatment of the Doctrine of Plato in his book?" 'The Doctrine of Plato' is in part a contribution to science and scientific method, and in part a prophetic message; 'Platonism' refers more especially to the prophetic message out of which the 'Doctrine of Plato' came. Does Professor Burnet's book give a timely new interpretation of this message of Plato, which will prove helpful and beneficial as a source of refreshment and inspiration in this time of crisis? I. The first reading of Professor Burnet's book gives one the impression that he has lost the unifying, creative genius of Plato in the wealth of his portrayal of the environmental factors which explain Plato and his doctrines: that he has explained Plato too thoroughly in terms of his times. Professor Burnet's book may thus be a masterpiece, but only a half book, which, by way of supplementation, calls for a synthetic account of Plato as a personality who drew together the influences analyzed out of his times. II. A second reading confirms the first impression that the junior reader might infer from the circumstantiality of the environment supplied by the book, an abstract, impersonal Plato, the only Plato possible under those circumstances. III. This would be a subjective account of Plato, because it leaves out something essential. It will be admitted that Professor Burnet is the one man, perhaps, who knows most accurately what Plato said, but in writing this book his main interest was to do other things than notice the evidence that might be used to make a psychological diagnosis of Plato's mind for the purpose of revealing to us his personality. IV. A psychological diagnosis of Plato's character, as supplementary to Professor Burnet's book,

might clear up the following points: (1) The meaning and nature of Plato as a dramatist would be explained. When at his best, Plato thinks and writes in terms of characters, the *Dramatis Personæ:* Socrates was such a character. In writing about Socrates, Plato is giving us his own thought in dramatic form, and not the thought of Socrates himself. (2) Recent researches, based on material found in Plato's dialogues, have thrown much light on the historical Socrates, but Professor Burnet's book may lead the junior reader to confuse the two philosophers. It must not be imagined that Plato's early dialogues are the work of a Boswell, piously fulfilling the duty of informing the world about the theories of Socrates. (3) Professor Burnet's researches, so successful in portraying the historical Socrates, may lead the junior reader to think that there were two Platos, one the historian of Socrates, the other the head of the Academy. This is an error which will be eliminated, it is hoped, by a psychological diagnosis. (4) The Doctrine of the Good, developed by Plato in his early dialogues, is the very keystone of his whole system. The junior reader may be led to suppose that this doctrine is really Socratic, and that Plato's peculiar contribution is the theory of Ideal Numbers. Further, the Constitution of the State, developed in the *Republic*, must be recognized as Platonic, although a different view is given in the *Laws*, where Socrates is not mentioned. (5) Professor Burnet's statement that the mysticism found in the dialogues is Socratic, and not the real thought of Plato, might also be corrected by a psychological investigation. Plato was one of the great mystics. The myths are not external to Plato's philosophy, but his literary account of mystic truths. In conclusion, the junior reader may not grasp the distinction between Plato as subject of science, and Plato as source of inspiration—a distinction necessary for a proper appreciation of Professor Burnet's book.

F. W. A. MILLER.

*Plato's Conception of the Cosmos.* HARTLEY B. ALEXANDER. Monist, XXVIII, 1, pp. 1–24.

The Pythagoreans were the first to conceive the world as an ordered whole, They discovered certain numerical characteristics of musical and astronomical phenomena which led them to the belief that number was the fundamental essence of all things. The background of Hellenic thought, like the natural thought of mankind everywhere, was pluralistic; the facts of life indicated not a consistent and close-locked universal scheme, but a *mêlée* of whim and purpose, while the most reasonless of all the powers it recognized, was that which it called Necessity. Two conditions, however, led to the view that the world is one ordered whole, a Cosmos. The first was the natural tendency of the mind toward simplicity, toward economy of thought. The second was the division of the universe into Sky and Earth, Day and Night, Summer and Winter which naturally symbolize the Intelligible and the Unintelligible. Observation of the heavens impressed men with the presence of intelligence (*Nous*) in the world; the Pythagoreans, however, with their number theory,

brought order and intelligence into the earthly world of change. These mathematical and physical thinkers evolved the notion of a Cosmos, an Order, written upon the face of the Chaos. Heraclitus and, far more distinctly, Socrates proclaimed this order of nature to be only the outward image and reflection of the inner order of reason. For Plato the world of sense in which most men dwell is but a shadow world, a symbol obscurely imitating the character of the reality which it veils. Heraclitus and Cratylus taught that everything flows, but, for Plato, this made knowledge impossible. His 'world of Ideas,' as it is called, is in fact but the assertion that our speech is significant, and that this significance is what we mean by reality. Plato's idealism is simply a sane and unconquerable conviction that there is a realm of truth, and his whole philosophy is an effort to find out this truth. Plato's myths deal with the realm of becoming rather than with that of eternal being, with the realm of science rather than with that of metaphysics, and were simply an attempt to avoid scientific dogmatism. Aristotle saw in Socrates only the inventor of inductive arguments and universal definitions, but Plato saw in him a midwife of souls; he caught what Aristotle missed, the essential spirituality of Socrates's teaching. It was Plato's faith in the spiritual reality of the world-life, which is a faith in the spiritual power of mankind, that keeps the edifice of his thought standing amid the rise and decay of competing systems.

W. Curtis Swabey.

*Paul and Plato.* E. J. Price. The Hibbert Journal, XVI, 2, pp. 263–282.

Though Paul was of Jewish descent and a Pharisee by education, he was influenced, however indirectly, by Greek culture; for he was in a Greek environment while living at Tarsus. Furthermore, he came in contact with the ideas of Greek thinkers through using the Greek language and through intercourse on his missionary journeys with men knowing something of Greek philosophical theories. Hence it is not surprising to find in Paul's writings evidences of Stoic and Platonic influence. As the subject of Plato's influence on Paul has been so little treated, it may be worth while to note certain correspondences between their teachings. (1) For both men, the real world is beyond the sensible world. For Plato, the world of particulars is transitory and imperfect; the ideal world, accessible only to the intelligence, is truly real. For Paul, things in the visible world are temporal; the unseen things are eternal. (2) Christ corresponds to the Platonic Idea of Righteousness. Plato holds that the particular has communion with the Idea, which is the cause of, and is immanent in the particular. Likewise, Paul holds that he has fellowship with Christ, who is in him, inspiring him. (3) Both the efficient and final cause of the world is, for Plato, the Idea of Good; for Paul, Christ. The Idea of Good, or Christ, is the source of all things visible and invisible. The goal of man and of nature is God, or Good. While both consider the striving for perfection of utmost importance, Plato is not so confident of a successful issue as Paul. (4) The psychology of Plato is similar to that of Paul. Both hold

that there are three divisions of man's nature: reason, soul, and body. Both men maintain that there is conflict between the higher and lower natures and both, accordingly, sound an ascetic note. But Paul's idea of resurrection in Christ has no parallel in Plato's philosophy. (5) For Plato, the general ideas are the real; the partial are illusory. This realism of general ideas is reflected in Paul's theory of original sin. He conceives of Adam's sin not as individual, but as the sin of all flesh, and the death on the cross represents the triumph over all sin. (6) Redemption is described by Paul and Plato as the passing of the soul into the realm of perfection. Paul, however, can hope for a more perfect redemption than can Plato, for the ideal of the former has become incarnate. Here, as elsewhere, we have evidence of the difference between a philosophy and a religion. Yet in this whole comparison of the two men we have observed traces of the influence of Socrates' disciple on Paul.

Marjorie S. Harris.

*L'individualisme de la Révolution Française et du Code Civil et la structure nouvelle de la vie économique.* G. Morin. Rev. de Mét., XXIV, 5, pp. 517–568.

Economic life since the French Revolution and the formulation of the Civil Code has evolved from absolute individualism to social federalism. Individualism had its origin in Grotius' conception of the natural rights of man. This conception was further developed by Rousseau in his theory of the social contract, and by Adam Smith in his doctrine of *laissez-faire.* But it was Kant who gave us, in his conception of man as an end in himself, the best expression of individualism. The first point of departure from individualism in this process of evolution was due to the division of labor, which necessitated the economic interdependence of individuals. At first, when commerce and manufacture were organized on a small scale, both parties to any transaction or 'exchange' were on an equal economic footing, and both had equal power in laying down the conditions of the exchange. But later, when industry and commerce assumed gigantic proportions, the separate individual found himself dealing with large powerful corporations. The problem arose of how again to establish the equilibrium of powers. Two methods were adopted: first, intervention by the government, and, second, union of the separate individuals, such as the union of laborers. Thus there arose classes, and the theory sprang up that the class struggle is the ideal way of promoting social progress. This doctrine, however, emphasized only the differences between the two principal contending classes, capital and labor; there is also a harmony between them based on the element of production. Hence boards of arbitration were formed to promote this harmony. But class antagonism showed itself in another direction. Producers found it profitable to combine in order more effectively to control prices and the amount of production. This resulted in the formation of trusts, and the individual consumer found himself in the control of powers much too strong for him. The attempt to remedy this inequality gave rise to two prominent characteristics of modern economic

organization: government regulation of private enterprises, and government ownership of public utilities. Theoretically, government ownership should have certain advantages: it should do away with the exorbitant profits demanded by private investors, and should result in the production of a better quality of goods. Practically, however, the results have not been so advantageous, because of illicit exploitation by state officials, and because of the lack of incentive to initiative and the absence of the feeling of responsibility on the part of government employees. These conditions are being remedied by changing somewhat the method of government control. Government ownership of public utilities is becoming more and more decentralized, and this is increasing individual efficiency and responsibility; and the administration of certain public utilities is being put into the hands of private concerns subject to government regulation. The trend is obviously toward a complete national organization of production. From this it is only another step to a 'society of nations' such as President Wilson has outlined, in which the equal rights of all nations shall be firmly established. Though economic life has thus gone through a marked change, the legal and judicial technique with regard to it has remained untouched. A reformation is necessary, especially in the application of the theory of contract. The only formula in the Civil Code for the relations between men is the 'contract.' The contract, however, presupposes equality in both parties to the transaction, and, as we have seen, under present economic organization this equality is destroyed. Hence for contract should be substituted regulation by a single power appointed to promote the public interest. Also in the organization of economic groups, syndicates, and federations the theory of contract can no longer serve, for these groups are dynamic organisms, and, like biological organisms, they imply progressive change and controlling purposes. Contract, however, is static, presupposing static relations between the members of the groups. Hence contract should be displaced by the rule of the majority which is plastic and will always express the will and purpose of the organism. Individualism was based upon the idea of the absolute isolation of human beings and ignored the coexistence of human beings in space and time. This coexistence results in a plurality of individuals, of groups, and of nations, which, in turn, give rise to the limitation of each by the rights of the other. This demands sacrifice, and sacrifice is the essence of all true society.

JULIUS COHEN.

*Individuality.* C. A. MERCIER. Mind, N. S., XXVII, 105, pp. 22–39.

Science, especially biology, is in need of a definition of individuality and it is the philosopher's task to furnish the definition. Physical separateness of an object from other objects is neither necessary nor sufficient to constitute individuality; nor is physical continuity of its parts necessary or sufficient for that purpose. Individuality resides not in things themselves, but in the way we contemplate them. Whether, for instance, we shall take the United States Consular Service, spread as it is all over the earth, as an individual, depends

on the way we contemplate it. An individual, then, like a class, is a mental construct. But that which we shall consider as an individual is something which may be contemplated with respect to its external relations as separate from all other things, and as unified with respect to its internal composition. With regard to the kinds of individuals, we must note that just as individuals are constituted by the mode of contemplation, so are they classified by the same means. Contemplated primarily with regard to internal constitution, the individual may be regarded as composed of individuals that are discrete and alike. It is then a class. Or it may be regarded as composed of parts that are continuous and unlike. It is then a whole. Contemplated primarily with regard to external relations, the individual may be regarded as like other things. It is then a numerable individual. Or it may be regarded as unlike other things. It is then a unique individual. Unique individuals are of two kinds: those measurable by amount, as much or little, are called substances, such as gold, bread, etc.; those measurable by degree are called qualities, such as hardness, fullness, etc. Qualities are encountered in experience as attributes inhering in substances. Classes, wholes, numerable individuals, substances, and qualities form the main divisions of the kinds of individuals; but these divisions are further divided by the author into subdivisions, according to various modes of contemplating objects, and according to the practical procedure involved in manipulating them.

Julius Cohen.

*Rousseau and Political Humanitarianism.* Hartley Burr Alexander. J. of Ph., Psy., and Sci. Meth., XIV, 22, pp. 589–611.

Rousseau is the chief exponent of the political idealism which was the distinctively humanitarian aspect of the Enlightenment and its main contribution to human thought and affairs. Rousseau believed in the perfectibility of man and had faith in man's power to redress ancient wrongs. He had the highest respect for conscience. He was a democrat who stood for the rights of man, that is, for the right of man to follow his reason. Invigorated by faith in man, in reason, and in conscience, he taught political truth that will be helpful to humanity in the present hour.

Ernest Bridges.

*The Principles of Distributive Justice.* Arthur K. Rogers. Int. J. E., XXVIII, 2, pp. 143–158.

The question considered is whether there are any general ethical principles that will show how wealth should be distributed. Various suggestions, such as the following, are found inadequate: (1) that possession is the foundation of property; (2) that equality of distribution is the demand of justice; (3) that human needs should be the basis of division; (4) that what a man produces by his own labor is rightfully his. The author thinks this last principle would be ethically satisfactory if it could be carried out. But, as it stands, the doctrine is quite inadequate to modern industrial complications. For what we have to-day is not the simple creation of *things* but a creation of

*values* in inextricable confusion. The theory usually reduces to a feeling that reward should be somehow proportional to value created. So attempts are made to justify ethically the existing automatic form of distribution, viz., the competitive system. But has this rough way of equating reward with economic merit any ethical claim upon us? The author concludes that no decisive solution of the problem of distributive justice is possible on ethical grounds. We are then reduced to the practical problem of inducing the parties concerned to coöperate. This is adjustment by expediency, and according to human needs and will. There is a rough sort of justice present in (1) the feeling that special ability should have some special return and recognition; (2) the demand that all men alike be given the opportunity to attain to a genuinely human life. Any future solution of the problem must seek to enlist all the available energy of society with the least possible friction; and must provide that success depend on real ability, and that all men have an opportunity to secure the essential goods of life.

MARIE T. COLLINS.

*Scope, Method, and Psychology in Economics.* H. J. DAVENPORT. J. of Ph., Psy., and Sci. Meth., XIV, 23, pp. 617–626.

Though the economic values be one in ultimate principle with the ethical and the æsthetic, the scope of economics would be kept clearer if the economist would substitute the term *price* for the term *value* wherever the relations of goods in the market are to be expressed. And in the study of social activities the most effective method of the economist is the examination of the way in which human desires and choices actually proceed. This method is both psychological and statistical; it includes the inward view of the agent and the outward view of the observer. The method assumes that men (1) have desires and (2) make choices among the means that are open for the attaining of their particular satisfactions.

ERNEST BRIDGES.

*Berkeley's Logic of Mathematics.* G. A. JOHNSTON. Monist, XXVIII, 1, pp. 25–46.

Berkeley was keenly interested in mathematics, and has much to say on the subject in his *Commonplace Book*, as well as in his *Analyst* and more properly mathematical works. Berkeley's 'new principle,' *i. e.*, sensationalism, involved difficulties in regard to mathematics. It implied that lines consist of a finite number of points, that surfaces consist of a finite number of lines, and that solids consist of a finite number of surfaces. All geometrical figures are composed of complexes of points, which were regarded by Berkeley as ultimate individualities. These indivisibles are *minima sensibilia*. Geometry was merely an application of the truths of algebra and arithmetic to these *minima sensibilia*. From this it follows in geometry that not all lines can be bisected, since some are composed of odd numbers of sensible points; that the incommensurability of the side and diagonal of a square must be rejected; that (as

follows from the last result) the Pythagorean proposition is false. In the *Analyst* Berkeley attacked an illegitimate method used by Newton in the calculus, which assumed the existence of infinitely small quantities. Berkeley was not an enemy of the infinitesmal calculus. He merely criticized the conception of infinitely small quantities, which were at that time vaguely conceived as neither zero nor finite, but as somehow in an intermediate state. They were said to be nascent and evanescent quantities, not quite nothing, and not quite anything. When Benjamin Robins pointed out that the calculus did not involve this conception, but could be demonstrated with the method of limits, the controversy was abandoned by Berkeley. Berkeley's criticism was thus influential in introducing the method of limits, and in abolishing the conception of infinitely small quantities which had been employed by Newton himself. Berkeley's arguments against infinitely small quantities were two: first, that the infinitely small cannot be imagined or pictured, and, secondly, that the infinitely small is self-contradictory. The first argument is simply an insistence on pictorial thought and does not prove its point. The second argument, however, is valid. Sometimes the *minimum sensible* is called a nascent quantity, *i. e.*, one which has left 'nothing,' but has not quite become 'anything'; at other times, it is called evanescent, *i. e.*, a quantity which is still something but is approaching (though not quite reaching) nothing. This conception, Berkeley insists, is ultimately incomprehensible and contradictory. In this he is right.

W. CURTIS SWABEY.

*On the Distinction between Primary and Secondary Qualities.* THEODORE DE LAGUNA. J. of Ph., Psy., and Sci. Meth., XV, 5, pp. 113–127.

The distinction between primary and secondary qualities has been greatly neglected by English philosophy since Berkeley. For Berkeley, qualities of things and the 'ideas' of these qualities are nothing but sensations into which things are analyzable. To be perceived is, for him, existence. All qualities may be regarded as primary, since no qualities belong to 'things-in-themselves.' Berkeley's chief weakness lay in assuming the identity of the qualities of sensation with the secondary qualities of things. For him, those uniformities in our sensations which we call 'laws of nature' enable us to connect our ideas of sensations and regard them as qualities of things. The objections to this are: (1) that even though the permanent thing be a *fiction*, it is not to be confounded with a complex of sensations; (2) that, as Mill points out, Berkeley was wrong in holding that the laws of nature are uniformities in the order of our sensations. Since Berkeley, the distinction between primary and secondary qualities has remained obliterated. The author regards secondary qualities not as single sensation-qualities but as groups of possibilities of sensation. Primary qualities have for him a double significance: (1) as the potentiality of the sensations by which the primary qualities themselves are perceived; (2) as determining conditions of all sensations. A modification of the ordinary terminology is suggested. Instead of distinguishing between lengths, etc.,

and colors, etc., as primary and secondary qualities, it would be well to recognize that there is both a primary and secondary quality of length, etc. Perhaps we may even recognize primary as well as secondary qualities of redness, sweetness, etc.

MARIE T. COLLINS.

*Value and Causality.* WENDELL T. BUSH. J. of Ph., Psy., and Sci. Meth., XV, 4, pp. 85–96.

Values are ultimately intrinsic, inherent, and immediate; and consist in a direct, active and non-cognitive experience of valuation, of that which is independently esteemed, appreciated or endured. And since they are inherent and intrinsic, they are independent of all causal relations and cannot be justified and criticized; consequently they have no objectivity that can be conserved, since they depend upon the immediate, which varies from moment to moment. The so-called pragmatic evaluations are really an analysis of the method by which the cognitive, functioning activity brings about an education of the appreciation of the immediately given, the progressive attainment of connoisseurship. A study of this cognitive activity is identical not only with the pragmatic theory of value but also with the point of view of instrumentalism. And since instrumentalism applies to what has reference to the future, it treats the present only as the cause or potentiality of a future consequence. It thus tends to equate pragmatic values with causality. Thus the pragmatic theory of value is realistic in an empirical and phenomenal sense, although interested in human situations, activities and methods. We cannot therefore regard pragmatism as adequate for a theory of value; for, apart from being really confined to the category of causality, it must refer ultimately to the immediately given intrinsic and inherent values. Acts of valuation refer to what an Hegelian might call the 'other' of the total context of the experience, *i. e.*, to the immediate and non-cognitive aspect of the experience. Instrumentalism is concerned only with the cognitive, functioning evaluation act, while the immediately given has the act of valuation in itself.

EDGAR DE LASKI.

*Analysis of Thinking.* W. E. JOHNSON. Mind. N. S., XXVII, 105, pp. 1–21.

An analysis of the process of thinking is common to both logic and psychology; the preliminary treatment of thinking, therefore, should be the same for both studies. Thinking involves a thinker, an object, and a connection between them. In thinking about a table, for instance, we may think of it as brown or as square. Assuming identity in the object of thought, we have here difference in the characterization of the object. Our special interest at any time determines our different characterizations of the same object. The character under which we cognitively determine the object we may call a component of our thought. To denote the relation between the thinker and the component of thought we shall use the word 'apprehension.' The object about which we are thinking, *i. e.*, the object of reference, plus the object of apprehension, *i. e.*, the component in our thinking about that object, together

form the one object of thought. Some objects of reference, presented prior to any constructive process are said to be given. But the given, upon further analysis, is found to be equivalent to what can be directly characterized, as distinguished from what is not given or is inferentially characterized. An object that is given is an occurrence; and an occurrence can be given only as an experience. Experiences only are given and directly characterized; *i. e.*, experiences are objects of thought characterized by the thinker by means of such adjectives as 'painful,' 'loud,' 'hard,' etc. Applying the term substantive to that which is characterized, and adjective to that which characterizes, we may say that a proposition involves the object of reference, or substantive, and the object of apprehension, or adjective. The kind of substantive which can be characterized not only internally, but also with regard to spatio-temporal connections is an existent. Adjective and substantive correspond to the terms universal and particular; a universal means an adjective that may characterize a particular, and a particular means a substantive that may be characterized by a universal. It is obvious that one cannot exist apart from the other. Further, adjectives are of two kinds: completed or characterizing adjectives, having substantive reference to that which they characterize, and relational or incomplete adjectives, lacking substantive reference. The latter kind we shall call 'coupling adjectives,' examples of which are: 'liking,' 'greater than,' 'giving to,' etc., We can thus evolve two kinds of 'ties,' the characterizing tie and the coupling tie. The former applies to the junction of substantive with adjective; and the latter denotes the coupling of two adjectives or two substantives. The coupling tie is best illustrated by the mathematical ratio. Assuming that $x$ is greater than $y$, we may say that $x$ to $y$ is as 'greater than' to 'less than'; '$x$ to $y$' being a substantive couple, and 'greater than to less than' being an adjective couple.

Julius Cohen.

*Association, Recollection and Memory.* J. Laird. Mind, N. S., XXVI, 104, pp. 407–428.

The problems of memory, although always fundamental, have a special significance in contemporary philosophy because of the new impetus they have received from M. Bergson's work, and because of the attention the new realists have given to this subject as a crucial point in their theory. While the more characteristic of M. Bergson's contentions are kept in mind, the main attempt in this essay is to follow the assumptions of the realists, and to show that their position is necessitated by the facts of recollection and association. The realist holds that the process of apprehension is not representative in any respect, but directly discovers the object as it is. This gives rise to his main assumptions: (1) that apprehension does not imply any special community between the process of apprehending and the object apprehended; (2) that there is no *a priori* limit to the power of the mind to know objects as they really are in themselves. We may begin our justification of these assumptions with an analysis of recollection. A recollected event is one that can be re-appre-

hended at any time in all its uniqueness as an event in the past: one on which, as regards apprehension, the lapse of time has no essential effect. This is the naïve view of the plain man, in opposition to which certain philosophers (James Mill, Dr. Ward, William James) maintain that recollection is a present event consisting of an image, a *facsimile*, a revived copy, which is believed by the subject to represent adequately a past event: recollection is mere knowledge about. The realist, supporting the plain man's view, holds that in recollection the same object is apprehended as was apprehended in the original experience; that the images in such apprehension are not something which exist only at the time of recollecting, but are the past events themselves, now re-apprehended. Any other view, he holds, reduces us to the theory that knowledge consists in mental states alone, that in recollecting we do not know the past itself, but only our own ideas; but more important still, if the process of apprehension is entirely in the present, it is difficult to see how it could relate to an object entirely in the past. The realist's view is, therefore, necessitated by the facts. An objection may be raised that the existence of 'free images' disproves the realist's contention. It is true that 'free images' are voluntary; but that we know the past at will does not prove that we know only our own images. Another objection is that images have quite a different kind of reality from that of past events. Even if this is true, it does not disprove the contention that the image and the original experience are essentially the same. But as a matter of fact there are no differences of reality between percepts and images. Differences of intensity, of fullness of detail, and of steadiness are merely accidental variations. Furthermore, percepts themselves are partly past events; they involve a sensible duration. This leads to the question of time and temporal apprehension, which many psychologists assert is a subjective, conventional aspect of recollection, not an objective character of it. The specious present does involve an act of attention which is of sensible duration, but every specious present is also a specious past, and a specious future as well, so that there is an element of recollection in every temporal apprehension. In summarizing our analysis of recollection, three points may be noted: first, direct apprehension of the past is not only possible, but actually takes place in every apprehension of time; second, apprehension cannot be mere knowledge about. We could not know that our images represented the past unless we knew the past to compare them with. Third, an event has always the same place in the order of earlier and later whenever we happen to contemplate it.

This same general position may be justified by an analysis of association. Association is always redintegration, and necessarily implies some previous integration, and a resemblance between something in the present and the idea redintegrated. The result of association is always the reappearance of something in the past, and although this result is not always recognized as past, association is very closely related to recollection and memory—a fact the details of which are often left by writers on psychology to the inference of the reader. Both memory and association are conserving agents. While both imply retentiveness, neither is merely retentive. Further, the objects of association

do not differ essentially from the objects of memory, although we associate ideas without knowing that there has been a previous conjunction. This lack of knowledge that the past is involved is, however, not essential, because pastness is only a felt relation to the subject. Thus James's view that the objects of association are things is manifestly correct. How is this reconciled with the obvious fact that things are not associated at all, but are related by quite different laws? The answer is that association *is* of ideas, when by idea is understood anything in so far as it is apprehended. Redintegration is not merely reproduction of things in imagery, but actual discovery, review of things themselves. M. Bergson's distinction between recollection and habitual repetition seems at first an objection. But in reality there is only one kind of memory—the apprehension of something experienced at a previous time; mere ability to repeat must not be confused with real memory. In conclusion, our analysis of memory implies that there are no limits to the power of remembering. Memory is simply the fact that an observed present phenomenon is capable of occasioning a re-observation of facts in the past, to which it has been conjoined and to which it bears a resemblance.

F. W. A. MILLER.

# NOTES.

We give below a list of articles in current philosophical magazines:

MIND, N. S., XXVII, 105: *W. E. Johnson*, Analysis of Thinking (1); *C. A. Mercier*, Individuality; *C. W. Valentine*, Volitional Attention and its Training; *P. J. Hughesdon*, The Relation between Art and Science; *R. Demos*, A Discussion of Modal Propositions and Propositions of Practice; *F. C. S. Schiller*, Cassandra's Apologia.

THE HIBBERT JOURNAL, XVI, 2: *Prince Eugène Troubetzkoy*, The Reign of Nonsense in the World, in the State, and in Human Life; *Gilbert Murray*, The Soul as it is and How to Deal with it; *J. Macleod*, The Struggle for Existence, and Mutual Aid; *M. J. Landa*, The Restoration of Palestine; *C. G. Montefiore*, The Old Testament and its Ethical Teaching; *H. L. Stewart*, Morality and Convention; *E. J. Price*, Paul and Plato; *Noel Buxton*, Christian Principles and the War Settlement; *H. J. Dukinfield Astley*, A Plea for Archæology among the Clergy; *Joseph Wood*, Preaching after the War; *Richard Roberts*, 1517–1917: A Retrospect and an Anticipation.

THE MONIST, XXVIII, 1: *Hartley B. Alexander*, Plato's Conception of the Cosmos; *G. A. Johnston*, Berkeley's Logic of Mathematics; *Henry Lanz*, Infinity as Method; *C. L. Marsh*, Imagination, Servant or Master (Poem); *C. L. Marsh*,The Super-Soul (Poem); *Walter Woodburn Hyde*, The Two-Hundredth Anniversary of the Birth of Winckelmann.

THE AMERICAN JOURNAL OF THEOLOGY, XXII, 1: *Benjamin W. Bacon*, More Philological Criticism of Acts; *D. D. Luckenbill*, On Israel's Origins; *Clyde Weber Votaw*, Primitive Christianity an Idealistic Social Movement; *James Westfall Thompson*, Church and State in Mediæval Germany (I); *J. Hugh Michael*, The Lament over Jerusalem; *William Walker Rockwell*, The Latest Discussions on Peter and Paul at Rome; *Elmer Truesdell Merrill*, Tertullian on Pliny's Persecution of Christians.

PSYCHOLOGICAL REVIEW, XXV, 1: *Ralph Barton Perry*, Docility and Purposiveness; *John J. B. Morgan*, The Perception of Force; *A. P. Weiss*, The Tone Intensity Reaction.

THE JOURNAL OF PHILOSOPHY, PSYCHOLOGY, AND SCIENTIFIC METHODS, XV, 3: *H. T. Costello*, Hypotheses and Instrumental Logicians; *G. A. Tawney*, Vox Populi, Vox Dei; *Edgar Sheffield Brightman*, Some Remarks on "Two Common Fallacies in the Logic of Religion"; *Jared S. Moore*, The Validity of Religious Belief.

XV, 4: *Wendell T. Bush*, Value and Causality.

XV, 5: *Theodore de Laguna*, On the Distinction between Primary and Secondary Qualities; *D. W. Prall*, Concerning the Nature of Philosophy.

XV, 6: *W. T. Bush*, An Apology for Tradition; *D. T. Howard*, The Pragmatic Method; *Elsie Clews Parsons*, Ceremonial Impatience.

THE BRITISH JOURNAL OF PSYCHOLOGY, IX, 1: *Shepherd Dawson*, The Theory of Binocular Color Mixture (II); *M. E. Bickersteth*, The Application of Mental Tests to Children of Various Ages; *Cicely J. Parsons*, Children's Interpretations of Ink-Blots; *Ida B. Saxby*, Some Conditions Affecting the Growth and Permanence of Desires.

REVUE DE MÉTAPHYSIQUE ET DE MORALE, XXV, 1; *E. Durkheim*, "Le Contrat Social de Rousseau," histoire du livre; *H. Wildon Carr*, L'Interaction de l'esprit et du corps; *V. Delbos*, L'Art et la science; *H. Bourget*, Les mesures et notre connaissance du monde extérieur.

REVUE PHILOSOPHIQUE, XLIII, 2: *A. Meillet*, Convergences des développements linguistiques; *E. Rabaud*, Les fondements d'une théorie de l'hérédité; *P. Masson-Oursel*, Études de logique comparée (III).

RIVISTA DI FILOSOFIA, IX, 5: *F. Kiesow*, Della psicologia scientifica; *E. Codignola*, La pedagogia rivoluzionaria negli storici conporanei; *A. Gaddi*, Dottrina e Verità.

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# THE PHILOSOPHICAL REVIEW.

## PHILOSOPHY AND LITERATURE.[1]

WHILE I am neither a prophet nor the son of a prophet, I shall venture to suggest what would be the probable reactions of a representative cultured inhabitant of Mars, if, through the good offices of some celestial or quite other visitant, he should suddenly be confronted with three characteristic aspects of our terrestrial civilization. When made imperfectly acquainted with the strange medley of our religious beliefs and practices, considered apart from the civilizations to which they belong or have belonged, he would undoubtedly say: "Alas! these our brothers of a sister planet are surely insane!" When more methodically made acquainted with our boasted scientific explanations of the world order, he would presumably say: "Yes, in some respects we Martians have done very much worse; but, on the whole, could perverse ingenuity go further? I am reminded of that unfortunate person,—did you call him Greek? Sisiphus I think you called him,—who was doomed to push up forever the huge rock that was eternally falling back. Why this gratuitous responsibility for a world that seems possessed to fall down rather than fall up, which apparently would have been equally logical?" But when the world of art, as we conceive it, should have been presented to this our cosmoplanetary brother, I think he would begin, dimly, to comprehend. Perhaps he would muse: "I also have lived in Arcadia"; but then he would be almost sure to spoil everything by a gross misquotation, for he

[1] Read before the Philosophical Club of Cornell University on 28 October, 1916.

would presumably say: "One touch of *art* makes the whole Cosmos kin."

But he would be right after all. Whether there be cosmological or anthropomorphic mythologies, they shall fail, whether there be contentious tongues of whatever vernacular, they shall cease; but humanity remains even after it has ceased to be, when translated into terms of the Promethean human spirit, which can suffer all things but cannot die. "He that seeketh his life shall lose it"; only that which is splendidly lost is eternally secure. This is the life eternal,—and the gateway is through the Palace of Art.

But the Palace of Art is no simple dwelling; it is the only permanent refuge of the human spirit, but it is also the tabernacle of the Most High. In so far as we differ from 'the beasts that perish,'—and our kinship in many respects is too patent to disown,—the difference is to be marked in terms of the progressive conquest of the forms of brute matter without and worse than brutal passion within through the plastic agency of the human spirit. If man had not early conquered the coward's cringing at the prospect of death and the merely lustful exuberance of the will to live, he would have given place—before the endless struggle had fairly begun—to some more interesting animal species. The cave man is said to have invented the 'dead line,' a mere mark on the cave-floor, which announced, with a view to possible invaders, as the most civilized nation has more recently said in its heart: "They shall not pass." If so, he was the founder of civilization; for it was only a question of time, even if a very long time, before the line should be drawn within as well as without. Of the enemies within as well as of those without his more sophisticated decendants were bound to say in the same stern phrase: "They shall not pass." But all honor to the cave-man! Much of sentimental modern philanthropy consists in the ill-omened attempt to do away with the dead-line. When that shall have been accomplished, when we are all 'too proud to fight' and the vulgarian, who naturally resents the idea of 'differences,' shall finally have persuaded us that they do not exist,—we shall pass into history, but presumably in the humble rôle of the warning example.

But, in the meantime, the spiritual kinship and even temporal continuity of the great civilizations that have prevailed in the world are perhaps the most consoling considerations, when it would almost seem to the timid observer that civilization itself had been rent in twain. For it will not do to say that Europe has reverted to barbarism, because the two great world factions are treating each other with ultimate severity. Millions of men may be lost before the grim question is decided, but I doubt if the spiritual manhood of any one of the great powers will suffer loss, unless the failure comes from within. It is something to know that civilization has not made the great nations decadent and that more heroism has been shown in our own generation than seemed humanly possible. The poignant misery caused by The Great War, all but world-wide but tragically concentrated at some of the older centres of civilization, can hardly outlast the present generation. The more permanent and perhaps more serious loss, all things considered, is in the temporary division of the great stream of western civilization, in the devastating floods and perplexed meanderings that must take place before the stream can really become one again and sweep majestically on.

We are agreed, of course, that science must be cosmopolitan. National prejudices may keep even scientists themselves from paying sufficient attention to the work of men of other nationalities at times of supreme stress like the present, but nobody would deny that this is simply to the detriment of science. But is a cosmopolitan literature possible or desirable? Before attempting to answer this question, I should prefer to say that, while cosmopolitanism itself is a philosophical ideal,—directly traceable to the Stoics, of course,—it is not clear to me that even philosophy must necessarily be cosmopolitan in the same sense that science certainly should be and tends to be under all normal conditions. For observe, science,—and I refer particularly to the physical and the biological sciences,—is really the only wholly impersonal thing that we know anything about; while philosophy, which equally aims at essential truth, so far as attainable in its own more complex sphere, cannot rule out personality, since personality is its own ultimate category,—if we are still to take seriously,

as I myself do take most seriously, the general method and conclusions of modern idealism.

Common sense believes that science deals always with the real and generally scouts the pretensions of philosophy; philosophy knows that one has to define the sense in which the more abstract sciences can be said to deal with the real. I do not refer to obscure questions of methodology, but to the patent fact that, if we recognize only the mathematical or causal explanations of science, we thereby rule out the world of æsthetic, moral, and religious values. When we attempt to deal in fundamental fashion with this world of appreciation as opposed to the relatively abstract world of scientific description, and to determine the true relations of the one to the other, we are, of course, in the realm of philosophy, whatever the particular investigation may happen to be. Here personality, which tends to become a vanishing point for scientific description, may assume varying degrees of importance, according to the particular method in question; but any marked tendency to rule out personality altogether as a fundamental philosophical category seems to me dangerous in the extreme.

Now can philosophy, which certainly aims to be as objective as possible, deal wholly impersonally with personality itself in its myriad manifestations? I do not mean to phrase the question in a question-begging way; but, just as Plato and Aristotle, Descartes, Spinoza, and Leibniz, Locke, Berkeley, and Hume, Kant, Fichte, and Hegel could never have become the great philosophers they were, if they had not had commanding personalities, so I venture to doubt if they would have achieved as much as they did, if they had been men without a country, as some of the more prominent early Stoics may, in a sense, be said to have been. The Stoic philosophy was very noble, so universal in one sense that it was the most natural thing in the world that a slave and a Roman Emperor should have been among its more prominent late exponents; but it was after all the philosophy of a gradually dissolving civilization, the last stand of all that was heroic in the human soul against the seemingly inevitable. Spinoza phrased it better, when he said: "A free man thinks of

death least of all things; and his wisdom is a meditation, not of death but of life." Philosophy must look forward, not back; but it will achieve more by bringing to clear consciousness what is most vital and significant in contemporary civilizations than by attempting to act too literally upon Spinoza's principle that the philosopher should view things only *sub specie æternitatis*. In other words, it is life itself that is eternally significant, not the changeless abstractions that are sometimes idolatrously made in its supposed image.

There are limits, then, to the cosmopolitanism of philosophy itself. More human than science, it has to pay that penalty of humanity, if penalty it be. What is the truth about literature in this respect? This is rather difficult to formulate, unless I am mistaken. From what might be called the strictly intellectual point of view, literature cannot, of course, compare with philosophy in its capacity to attain the cosmopolitan attitude. What is more to the point, any serious attempt to do so would be almost sure to result in something very different from what we ordinarily mean by literature. Local and temporal peculiarities, the very things that we attempt to abstract from in philosophy, have a perfectly legitimate place in the more concrete method of literature, though I must confess it seems to me that 'local color' has been worked to death in some forms of recent literature, particularly in the short story.

Like all forms of art, literature must deal with the concrete individual as opposed to any or all abstractions; but none the less it must, consciously or unconsciously, embody the significant or the universal in the individual shapes. Without that, art would cease to mean anything at all; for it is a crude mistake to suppose that the only objection to the 'art for art's sake' formula is that it comes into conflict with certain irreducible demands of morality and common decency. In idealistic philosophy we hear much of the 'concrete universal' as opposed to the spurious 'abstract universal' that is obtained by the mere elimination of particulars. I have long thought that in art more than elsewhere—and I refer more particularly to the higher products of art—we find to hand almost the best examples of the 'concrete universal' taken in its

relatively literal sense. Philosophy tells us that only the individual, in the sense of that which is unique, is real; art proves that nothing can be more universally significant than the unique individual, as interpreted by the greatest artists, whatever the particular art in question.

But here the problem of the possible cosmopolitanism—or, better, the possible universality of significance—of the greatest products of art comes up in a somewhat unexpected form. We have already conceded the palm to philosophy, so far as possible universality of strictly intellectual assent is concerned. But we are confronted with the fact that, while Homer (assuming for convenience that he was an historical individual) was, from one point of view, typically Greek and Shakespeare was, from the same point of view, not only typically English, but typically Elizabethan, both are more universal, in the sense that they actually make a more universal appeal to minds capable of literary appreciation, than any two philosophers who could be mentioned make to the more limited class who are capable of reading them critically. How is this to be explained? I shall attempt nothing more than suggestion by way of answer. If Homer and Shakespeare had not each been one of the highest exponents of his own civilization, there would have been no question as to the universality of either. This must be frankly admitted, and even emphasized; for nothing could be more foreign to the essentially concrete method of literature than abstract internationalism. But the further question as to the explanation of their universal appeal remains. Would we be justified in holding that, deeper than any strictly intellectual interpretations will carry, there is an essential unity or harmony of our human nature, generally realized only obscurely, but most adequately revealed by the greatest masterpieces of art, and more particularly of that art of which we have been speaking, literature? For art, even in its pathetically faded, worn, or shattered fragments, where painting, sculpture, or architecture are concerned,—in literary fragments also, which sometimes, in extreme cases, seem to tell us only of the incalculable value of what has been irrevocably lost,—art, I say, is apparently the only thing that, strictly

speaking, endures. When we look back to the time of the highest development of Greek civilization, it must be admitted that what we know about the actual conditions of society, though vastly interesting, seems rather foreign and sometimes rather quaint. There will never be anything foreign or quaint about the greatest works of Phidias or Sophocles. Again, there is much in the mediæval conception of the world-order that seems remote to many of us; but who can stand in one of the great cathedrals—quietly, reverently—without having the majestic vision recreated and realizing that the cathedral builders indeed "builded better than they knew"? No theological rancor or temperamental or reasoned scepticism can really stand between the humanely cultured man and Dante's *Divina commedia*, though even he may find the *Vita nuova* somewhat foreign and perplexing. The "voice of ten silent centuries" will always be relevant; for even if science shall finally give us a new earth, it can never deprive those who are not spiritually blind and deaf of the Kingdom of Art,—for that is 'within us.'

I fear that some of you may think me reactionary in thus emphasizing the importance of art, and particularly of literature, for philosophy, and remaining silent as to the obligations of philosophy to science. I can only reply that I am—by request—speaking of art rather than of science at this hour, though I will interject my admission that a very large number of the most important problems now before philosophy have been suggested by science. Philosophy would be groping in the world of factual reality, if it were not for the supremely important assistance of modern science. But the inevitable reconstruction for philosophy cannot be wholly in terms of science, if only for the reason that the science of the scientist is the science of the special sciences.

Of course, science is sometimes, as it were, spelled with a capital letter: we are given to understand that, when the special sciences become coördinated, there will forthwith be an end of philosophy. But that could not possibly be: what would really emerge would be merely another kind of philosophy, not specially recommended by the consideration that, up to the present,

materialism has often been tried and as often been found wanting. For observe,—leaving out the crudities of traditional materialism, which are not necessarily relevant,—so long as one holds to the merely mathematical or the merely causal methods of explanation, or, perhaps better, those of 'scientific description,' nothing is better or worse, beautiful or ugly, right or wrong. In other words, from this point of view, what we call order and disorder, harmony and discord, do not exist. The late Professor Huxley's rather defiant remark on that point, though made more than thirty years ago,[1] remains interesting and pertinent. He says: "It is conceivable that man and his works and all the higher forms of animal life should be utterly destroyed; that mountain regions should be converted into ocean depths; the floors of oceans raised into mountains; and the earth become a scene of horror which even the lurid fancy of the writer of the Apocalypse would fail to portray. And yet, to the eye of science, there would be no more disorder here than in the sabbatical peace of a summer sea."

But if the indirect obligation of philosophy to literature be as great as I have suggested, the question naturally arises: What side or sides of literature are to be regarded as specially important for philosophy? I put the question in this form, for of course it would be plainly absurd for philosophy to define literature in terms of its own sphere of interest. Unless I am mistaken, one has to employ more than ordinary caution in dealing with this matter. All of you are familiar with Matthew Arnold's dictum, that poetry is, or should be, essentially a 'criticism of life.' Of course one would do Arnold a great injustice, if one should assume that he meant the phrase to be taken in the literal sense. He himself explains that he would put didactic poetry, not on the highest, but on almost the lowest plane. But, in spite of all disclaimers and supplementary explanations, it seems to me that the formula is unfortunate, not so much because it points in the wrong direction as because it points in only one direction. Poetry most certainly *may* take the form of a criticism of life,—Arnold's own poetry, admirable of its kind though distinctly narrow in

[1] *Contemporary Review*, February, 1887.

range, is an example in point,—while the essay (incidentally Arnold's own prose form) is as likely to be a criticism of life as anything else. I am inclined to think that a more plausible case could be made out for regarding literature in general rather than poetry in particular as a 'criticism of life'; for the direct emotional appeal of most poetry makes the word 'criticism' seem particularly out of place where poetry is concerned. Be that as it may, I doubt if Arnold (at any rate, when *defending* his pet phrase) meant anything very different from what could have been expressed in more commonplace terms by saying that poetry,—and let us include literature in general,—should deal in significant fashion with the really significant things in life. To that most of us would probably agree, though Professor Saintsbury and certain other critics holding similar views might demur.

But now we have to face the crucial question. Granting that literature may very well be a 'criticism of life,' and that some literature of a very high order undoubtedly is that more than anything else,—witness the case of Montaigne's *Essays*, which happen to appeal to me personally almost as much as any book ever printed,—are we prepared to say that literature of this type is necessarily the most significant for philosophy? To this question, I, for my own part, would have to reply very distinctly in the negative. All literature is inevitably an interpretation of life, but a 'criticism of life' is something different. Any writer who attempts that does it at his own peril. After all, it is likely to turn out to be a case of having something to prove, and the man of letters, who at many points has the philosopher at a distinct disadvantage, is here more or less at his mercy. How many of the world's great men of letters have combined the broad humanity and the subtle instinct of humane self-criticism that we find in Montaigne? The fact that he was a sceptic hardly commends him to philosophers, but his being the kind of a sceptic that he was saved him from irreparable blunders. Take the case of Shakespeare himself,—and is there any significance in the fact that almost his only known autograph is to be found in his copy of the Florio translation of Montaigne's *Essays*,—what was his 'criticism of life'? The supreme dramatist is said to

have played some of his own minor parts, but he never appears as one of the characters or addresses us from the stage.

But let us turn to altogether lesser men. Tennyson, Arnold, and Browning were presumably the greatest Victorian poets; and, according to the judgment of most competent critics, Browning and Tennyson were unquestionably greater poets than Arnold. And yet, while Arnold's 'criticism of life,' as shown in his poetry, the best of which was written comparatively early in the poet's life, has an extremely narrow range, it is fundamentally sound,—unless we take exception to the rather monotonous note of sadness and to what may seem the over-emphasis of what proved a somewhat transient phase of religious reconstruction.[1] Tennyson, on the other hand, is the one of these three poets who shrinks most, when considered from this point of view. A very great artist in perhaps the narrower sense, an unrivalled interpreter of the thoughtful conservatism of his generation, a fairly genuine poet on the whole, his 'criticism of life,' so far as it takes the form of more or less definite theory, is never secure, and, at its worst, is nothing less than preposterous. His *Promise of May* must, I suppose, be regarded as an argument, since it certainly is nothing else; but the not very intellectual Marquis of Queensberry of that day, principally known, I believe, as an authority on boxing, was certainly justified, as a professed agnostic, in his protest from his private box at the theatre, when the play was first produced. The apparent assumption that, if a young man happens to become unsettled in his views regarding personal immortality, he almost necessarily loses not only his feeling of social obligation but his sense of common decency, speaks for itself. This is simply an extreme example of the extent to which Tennyson was capable of losing his head in dealing with some of the religious problems of his time. The *Idylls of the King*, again, are about as faulty as a 'criticism of life' as they are undeniably beautiful and impressive, when considered merely as a series of loosely connected narrative poems, highly romantic in character and certainly not improved by the liberties Tennyson

[1] Of course this is hardly fair to Arnold, whose prose work forms a magnificent body of 'criticism' both of literature and of life, in spite of certain irritating mannerisms and hampering formulas.

took with the traditional plot of the Arthur cycle. But the poet of *In Memoriam* and *Crossing the Bar* remains. Not only so, but there is a large body of poetry of a very high order to his credit, even if we feel obliged to make considerable deductions where 'Mid-Victorian' ideas and ideals seem too much in evidence. In truth, so long as Tennyson was content to confine himself to the sympathetic interpretation of what he thoroughly understood and appreciated, his success was nearly always complete; for his powers of poetic expression were almost unexampled for a poet ranking well below the greatest. It is absurd to underrate Tennyson the poet because he was not also an independent and intrepid thinker; philosophy itself owes much to his artistic interpretations of the ideals, aspirations, and spiritual struggles of the really great generation to which he belonged.

The case of Browning is another warning against the rather crude mistake of confusing the provinces of poetry and philosophy. His actual 'criticism of life' is faulty enough at times and occasionally grotesque; but his own larger and really poetic interpretation of life, though far from infallible, is, on the whole, a magnificent refutation of what is wrong on the theoretical side. He had no more intellect than Tennyson; but he had a great heart and a great imagination, and when a poet is thus endowed we are all sure to be his debtors. Browning has probably suffered more than any other recent poet from the inevitable myth, which, unfortunately, he did something to foster. It is a mistake to suppose that his early work was not appreciated by competent critics; but his real popularity certainly came somewhat late in life, and it is to be feared that he met the Browning clubs fully half way, in spite of certain anecdotes that might seem to indicate the contrary. The result was most unfortunate: instead of a very human and sometimes erratic poet, we had presented to us for our homage an all-round philosopher, who for some reason had chosen to write in verse. Incidentally, Browning was almost the only really great poet we know of who could not also write good prose. People could hardly tell whether he accepted or declined dinner-invitations, according to Chesterton's probably exaggerated account of the matter.

No, Browning is not a philosopher, but a poet pure and simple. Sometimes he argues very cleverly, but this is generally after the essential matter has been decided on other than purely rational principles. This, of course, does not necessarily mean that the decision has been wrongly made. Of his much vaunted optimism various things may be said. At its best, it really is splendid, a triumph of imagination; but at its worst it is simply abominable,—the unconsciously cruel optimism of a man who never had a real care in the world until his wife died, and who from his earliest years had enjoyed almost abnormally good health and spirits. As regards the melodramatic vein that runs through his work,—perhaps best exemplified by such a poem as "The Statue and the Bust,"—the idea that, after all, life is an adventure and that the only really important thing is to play the game to the limit, one can only agree with Mr. Santayana that this is pure barbarism.[1] Probably Browning would never have strayed so far from reality in this respect, if he had ever learned the wholesome lesson of 'the day's work.' This most reckless adventurer in verse (when the mood seized him) was wholly circumspect in life, and his father always paid the bills so long as he lived and left the wherewithal when he died.

But these personal peculiarities have little to do with the really significant Browning. Tennyson's fight for a real place in the world in his early manhood was as heroic as Browning's easy acceptance of his own very easy circumstances was commonplace; but the fact remains that, when the two poets faced the spiritual problems of their generation, Tennyson simply lost his nerve on more than one critical occasion, while Browning, whose preliminary attempts left much to be desired,—and who was quite capable of losing his way altogether in dealing with a particular problem,—grew in spiritual stature from being an exponent of a somewhat blustering optimism and a rather noisy, but most unorthodox, faith to the nobly catholic attitude expressed in the splendid poem, "Development," published in the *Asolando* volume, which appeared on the day of the poet's death. The "Development" might well be called a 'criticism of life' at

[1] *Interpretations of Poetry and Religion*, p. 204 f.

its highest; but its wisdom is not that of a philosopher spoiled in the making, but of a great poetic personality that had finally fulfilled itself through sympathy and imagination. In short, what Browning thought about many problems, together with the reasons that he gave for his conclusions, is largely a matter of biographical interest, for he was never at his best when reasoning in set terms, as he was rather fond of doing; what he makes us appreciate in our common human nature or in the direction of our more distinctly spiritual interests is what really does matter, and what will continue to matter so long as our human nature and spiritual interests remain recognizably the same.

And now we finally have come to our tentative conclusion: Science enables us to comprehend the world from without; literature helps us to appreciate the world from within; philosophy endeavors to prove that the world is one after all, in spite of the apparent antithesis of description and appreciation.

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# THE TEACHING OF PHILOSOPHY AND THE CLASSIFICATION OF THE SCIENCES IN THE THIRTEENTH CENTURY.[1]

IN the thirteenth century there was a great philosophical movement. Its apogee coincides with that of the University of Paris and, indeed, with the highest point of all mediæval civilization. We are beginning to be better acquainted with mediæval philosophy; some remarkable works have been devoted also to the organization of the University of Paris in its time of splendor; and studies in the realms of politics, economics, and the history of customs and of art in all its forms help us daily to penetrate farther into the civilization of the thirteenth century.

This is, however, a kind of research which has scarcely been touched and which is rich in possibilities; for example, there is the question of the relationships between the various factors—the philosophical doctrines themselves, the University within which they evolve, and the civilization in which they are immersed. Indeed, the evolution of philosophical doctrines—what I would call the internal life of philosophy—commands in a sense the external life of the great mediæval university, and still more, reflects and acts upon the whole civilization of the period. The general question which I propose to discuss is, in a word, this: *The philosophical program of the University of Paris is closely affiliated with a classification of human knowledge which was accepted by all the scholars of the thirteenth century; and this classification has sociological features which bring it into harmony with the entire civilization of that century.*

## I. The Philosophical Program of the University of Paris in the thirteenth Century.

The founding of the University of Paris in the last years of the twelfth century constituted a turning-point in the history of

[1] Translated from the French by Dr. Katherine E. Gilbert.

mediæval philosophic thought. After that the French metropolis was to monopolize to its advantage the intellectual activity which had previously been scattered about in numerous French centers. The University eclipsed the episcopal and monastic schools, and thereby killed the individualistic spirit in favor of a centralization of study.[1]

Toward the middle of the twelfth century the schools of Paris were divided into three groups: (*a*) the schools of the cathedral of Notre Dame, under the authority of the chancellor, and through him, of the Bishop of Paris; (*b*) the schools of the canons of St. Victor, which had become a hot-bed of mysticism, but where William of Champeaux had opened an outside school and had been teaching philosophy for some time; (*c*) the outside schools of the abbey of Saint Genevieve. But the schools of Notre Dame occupied the foremost place, and it was from them that the University sprang, not indeed through a decree of the government or a committee of trustees, but as a flower grows from its stem, by a natural association of masters and pupils; for their number had multiplied as a result of the constant development of studies.

Masters and pupils were grouped in four faculties according to their special interests—the University documents compare them to the rivers of Paradise, just as the iconography of the cathedrals symbolically represents the four evangelists as pouring water from urns toward the points of the compass. These are the faculties of theology, arts (thus called in memory of the liberal arts of the High Middle Ages), of law, and of medicine. The first two established the fame of Paris and attracted to her lecture-halls all the scholars of the West interested in theology and philosophy. The infatuation for philosophy which now appeared, culminated in a flowering of systems so varied, so opposed to each other, and so powerful that the thirteenth century stood out definitely as one of the most significant in the history of thought.

The organization of disciplines in the University is a living and moving thing. It takes form in the second half of the

[1] See Rashdall's excellent work, *The Universities of Europe in the Middle Ages*. Oxford, Clarendon Press, 1895.

thirteenth century, and at that moment shows in great purity of outline, like something new and fresh, like a distinctive and pleasing product of the Middle Ages.

I should like, as it were, to take a snap-shot of the faculty of arts—or of philosophy—as it is about 1270, in order to put in concrete form the organization of its curriculum.

At first it is entirely distinct from the other faculties, therefore from the faculty of theology also, just as philosophy at the present time is distinct from theology. But the studies under its control fill a quite special place in the University economy because they are the usual or even required preliminary to studies in the other faculties. They have a formative and preparatory character, and for this reason the faculty of arts appears in the documents with the title of inferior faculty, *facultas inferior*, in distinction from the three other faculties which are placed over it and hence are called superior, *facultates superiores*.[1] On this account the student population of the faculty of arts was young and numerous, a population of adolescents—*pueri*, the charters say. They entered at fourteen years; at twenty they might have finished their course in arts and have graduated into another faculty. But they had received the imprint of their masters, and at this fine time of youth the impress is indelible. On their side, the masters or professors of the faculty of arts, recruited from among the graduates in arts by a curious custom of which we will speak later, also formed the young—and therefore stirring—element in the professorial body.

It is easy to distinguish in the faculty of arts the two main features which characterize the entire University: the corporate spirit and the extension of instruction.

The faculty of arts is an incorporated association of masters, *magistri*, and pupils; it works out its own laws, owns its own seal, elects its own dean, and only admits new members into the fold after a solemn initiation. It is, to be sure, an outsider—the chancellor of the cathedral of Notre-Dame—who, in the name of the bishop and because of tradition, gives the *license* to teach, *licentia docendi;* but the masters of the faculty have to welcome

[1] Demple et Chatelam, *Chartularium Universitatis Parisiensis*, I, p. 600.

and initiate (*inceptio*) this new member if he is not to remain a stranger to the corporation. The number of masters of arts thus incorporated is considerable. Practically, it is unlimited—for a reason that we shall mention. Indeed, the *student* at Paris is an *apprentice-professor*, a candidate for the mastership. His career is normally crowned, not by receiving a diploma—which is simply the recognition of knowledge,—but by *teaching* in the corporation of his masters. The studies too are simply a long apprenticeship for the mastership or the professorship. He becomes a professor by doing the work of a professor, as a blacksmith becomes a blacksmith by forging. Indeed, in spite of oneself, one is reminded of the organizations of workmen, of stonecutters and masons, who about this time were building and carving the great cathedrals of France. They too had their working-men's syndicates, and professional schools were organized in their midst. The apprenticed workman was subjected to a severe and long initiation, and worked under the direction of a master. To become master in his turn he had to produce a work judged worthy and called a *masterpiece*. The process was not otherwise for the future professors of philosophy (and of theology) at the Parisian University.

After six years of attendance as pupil, the new member cleared the three steps of baccalaureate (*bacchalaureus*), licentiate (*licentiatius*), and mastership (*magister*). But the tests for the baccalaureate had already included an attempt at a public lesson. After the new member had been subjected to some preliminary examinations (*responsiones et examen*), he was required to mount a platform, and invited to organize the defense of a thesis—a process which sometimes lasted all though Lent—and to answer the objections of those present. This public defense was called *determinatio* (*determinance*); and the student left it a bachelor. The very term was employed by the corporation in a special sense,—the bachelors, in the language of the profession, being "those who have passed as masters in the art but who have not been sworn in." The examination for the baccalaureate is surrounded with the corporate ceremonial so dear to the thirteenth century. The student puts on a special *cap*. Then, the

seance ended, wine is served and a banquet arranged. Youth is everywhere the same—the great days of university life must be gaily celebrated. Between the baccalaureate and licentiate there ran a time of variable length during which the bachelor was at once student and apprentice-professor. As student, he followed the master's lessons and continued to acquire knowledge; as apprentice-professor, he himself explained to others some books of Aristotle's *Organon*. When his term of six years had rolled around and he had reached his nineteenth or twentieth year, the bachelor could present himself before the chancellor to be admitted to the *licentiate*. Ceremonies multiply; a new examination to be gone through with before some of the professors of the faculty (*temptatores*), then before the chancellor assisted by four examiners chosen by him and agreed upon by the faculty, public discussion at *St-Julien-le-Pauvre* upon a subject left to the choice of the bachelor, finally amid great pomp the conferring of the long-coveted right to teach and open his own school. There was still the third step to be mounted—the mastership, and here we are taken back to the purest conceptions of the mediæval corporation. The mastership is the enthroning of the newly licensed member within the faculty or society of masters—that close organization, so jealous of its monopoly, to which one had access only through the agreement of all the members, and after having given a pledge of fidelity to the rector and to the faculty—a pledge which bound the master for life. The mastership was in principle *a free profession*, with no rules except the rules applying to the organization as a whole, and with no limit upon the number of the members. If one adds that the students chose the master that pleased them, it will be understood that the value of the teaching determined the prestige of the doctors, and that there were deserted regions, and others—as in the time of Abelard—too small to hold the knowledge-seeking crowd.

But it is interesting to know what was taught and how teaching was conducted in the faculty of arts. What is the level of the studies? What is the philosophy of these masters worth? We know that masters and bachelors had to read (*legere*), that is, explain texts (in English the word 'lecture' is still applied to university instruction), and also organize discussions (*disputare*).

Here in all its dryness is the list of works *to be read*, as fixed upon in 1255 by a statute of the faculty of arts: "*Veterem logicum (videlicet Librum Porfirii, Predicamentorum, Peri Ermenias, Divisionum et Thopicorum Boecii, excepto quarto), Priscianum Minorem et Majorem, Topica et Elenchos, Priora et Posteriora; Ethicos quantum ad quatuor libros; Sex Principia, Barbarismum, Priscianum De Accentu; Physicam Aristotelis, Metaphysicam, et Librum De Animalibus; Librum Celi et Mundi, Librum Primum Metheorum cum Quarto; Librum De Anima; Librum De Generatione; Librum De Causis; Librum De Sensu et Sensato; Librum De Sompno et Vigilia; Librum De Plantis; Librum De Memoria et Reminiscentia; Librum De Differentia Spiritus et Anime; Librum De Morte et Vita.*"[1] The statute had its origin in the fact that certain professors cut their lessons short and did not devote to the teaching the time required by the abundance and difficulty of the material: *magistris aliquibus lectiones suas terminare festinantibus antequam librorum quantitas et difficultas requireret.* In the future the masters would be obliged to comment,—that is, to teach the long series of works which we have just enumerated.

All the recent historians have described these programs of courses and didactic methods; but no one, so far as I know, has sufficiently penetrated to their spirit. It is not enough to enumerate the different works which masters and bachelors were supposed to expound and comment upon; it is not enough to know that teaching had two phases, the '*lectio*' or commentary upon a text and the '*disputatio*' or public discussion between students, bachelors, and licentiates. What is more important is to grasp the organic and directing thought which determined the choice of this program, and the way in which the most brilliant masters of the period understood it. Then a light illumines from within the rigid scheme of the curriculum, and the cold skeleton becomes a living organism. The value and intensity of this life is clear to one who knows that these programs and methods were inspired by a vast classification of human knowledge; by a gigantic work of systematization, which reached its greatest perfection in the

[1] *Chartularium Universit. Paris.*, Vol. I, p. 278. *Cf.* p. 228 for a program which the English regard as less complete.

academic products of the Parisian University, but which began elsewhere, and which directed at the same time the parallel work of the schools of Moorish Spain or even of distant Byzantium. This great classification is like a forest of ideas, whose lofty tops dominate the mental life of the thirteenth century.

## II. The Scientific Structure and Superposition of Steps.

The classification of human knowledge to which the curriculum of the faculty of arts is adapted is the fruit of several centuries of speculation and one of the characteristic conquests of the mediæval mind. For more than a thousand years it has satisfied thinkers thirsty for order and clarity. In what does it consist?

One may compare it to a monumental structure, to a pyramid of three steps: the sciences of observation at the base, philosophy half-way-up, theology at the top.

i. At the bottom are the experimental sciences of astronomy, botany, physiology, zoölogy, physics (in the modern sense of the word); and instruction in these precedes instruction in philosophy. In this there is a very interesting pedagogical application of a ruling principle in the philosophical ideology of the Middle Ages: viz., that since human knowledge is contained in the data of sensation, the cultivation of the mind must begin with what falls under the observation of the senses: *nihil est in intellectu quod prius non fuerat in sensu.* But more especially there is implied in this placing of the experimental sciences at the threshold of philosophy the beginning of a conception which inspires the scientific philosophies of all times: viz., that the *synthetic* or *total* conception of the world furnished by philosophy must be founded on an *analytic* or *detailed* conception yielded by a group of special sciences. These latter study the world minutely,—that is why they are called special sciences. They investigate the world piece by piece; the philosophers of the thirteenth century speak clearly concerning this method—the basis of the particularity of a science. This Aristotelian and mediæval theory of science appears in a brilliantly intellectualistic part of the history of method. It delighted H. Poincaré, and justifies his famous formula: "Science will be intellectualistic or nothing."

In all science, say the scholars of the thirteenth century, it is proper to distinguish the things with which it is concerned from the point of view from which they are considered. The things with which a science is concerned are its material; for example, the human body constitutes the material of anatomy and physiology. But every science grasps its material in its own way; it takes things on some one side, and this side is always *a point of view of the mind*, an aspect of things which the mind draws off,—abstracts (*abstrahit*) from its material. Thus the point of view of anatomy is not that of physiology; for anatomy describes the organs of the human body, while physiology is concerned with their *functions*. The point of view of the one is static, of the other is dynamic.

From this it very plainly follows that two sciences can be occupied with the same material, or—to borrow the philosophical terminology of the Middle Ages—possess a common material object (*objectum materiale*), but that they must possess in each case, under penalty of being confused, a distinct point of view, a unique formal object (*objectum formale*). And indeed, look at what groups of sciences you will, everywhere you will discover the operation of this law regulating the distinctions between the sciences: geology, inorganic chemistry, and physics are concerned with the same object—the inanimate world—but from different points of view. Biology, paleontology, anatomy, and physiology study the organism, but in its different aspects. The material common to political economy, civil law, and criminal law, is human action, but each of these sciences regards the complete reality of human action from a special angle. From this intellectualistic conception of the sciences, which rests the specific character of the science upon the point of view, it follows that a new science must be born every time researches and discoveries come upon a new aspect, a point of view hitherto unsuspected in the unending pursuit of reality; the more the mind multiplies its restrictions, the farther it penetrates into the secrets of the world.

This theory of science helps us to understand what makes a science 'special', and how a 'special' science is opposed to a 'general' science. The particularity of the sciences rests upon two

considerations which supplement each other, and an examination of a few of the sciences that we have chosen as examples will suffice to show in the concrete the value of these considerations. Anatomy and physiology, we said, are concerned with the human body, but they do not disturb themselves about geological strata or stars or agreements and contracts. The material studied is a corner of reality; a restricted, specialized corner or—to use again the mediæval terminology—their material object (*objectum materiale*) is restricted. And precisely because anatomy and physiology are concerned with only a particular group of existences, the point of view under which they include this group of existences is not applied and is not applicable to other categories of the real.

ii. Suppose now that there is another order of sciences, which is not concerned with such and such a compartment of existences, but with all existences, with the real without restriction, and you will be in the presence of a general science. General science is philosophy, and it constitutes the second stage of knowledge. It is human wisdom (*sapientia*), science *par excellence*, ἐπιστήμη.

The detailed examination of the world for which the special sciences take up particular positions does not suffice to satisfy the mind; after the detail it demands total views. Philosophy is nothing but a glance at the whole of the world. The man of science resembles a stranger who should explore a city bit by bit, and travel through, one after the other, its avenues, promenades, museums, parks, buildings. When at last he had wandered over the city in all directions, there would still be another way for him to become acquainted with it; from the height of a platform, from the summit of a tower, from the basket of a balloon, from an aviator's seat, the city would disclose to him another aspect—its framework, plan, and relative disposition of parts. The philosopher is this man who views the world from the top of a look-out and sets himself to learn its structure; philosophy is a synthetic and general knowledge of things.

This *generality* strikes us in two ways; and in two ways the general character of philosophy is opposed to the special character

of the other sciences. In the first place, instead of dealing with one compartment of the world, philosophy plunges into the immensity of the real, of all that is. Its matter (material object) is general, not, of course, in the sense of an encyclopedia (as was supposed by an Isadore of Séville, a Rhaban Maur, or a Vincent of Beauvais of the thirteenth century) into which is thrown pellmell and in a purely artificial order, a formidable lot of information in regard to all that is known and knowable. An encyclopedia is not a science and does not pretend to be. If philosophy deals with all reality it does so in a certain way: in total views.

But these total views are not possible unless the mind discovers in the totality of the real some aspects or points of view which are met with everywhere and which strike to the very depths of reality. To return to the technical language with which we are now familiar, its formal and precise object is *the study of the forms that are found everywhere and which must be general because common to everything*. The thirteenth century opens the door to the significance of synthesis or generality by taking up and completing Aristotle's famous division of philosophy, which was accepted as valid down to the time of Wolff in the seventeenth century: philosophy is first, *theoretical*, second, *practical*, third, *poetical*, that is to say, *actual*. This three-fold division of philosophy into speculative, practical, and poetic is based upon man's different contacts with the totality of the real, or as was said then, with the universal order.

1. Speculative or theoretical (θεωρεῖν, to consider) philosophy gives us the results of our acquaintance with the world in its *objective* aspect; it includes the philosophy of nature, mathematics, and metaphysics, which 'consider' respectively, in the material world, change, quantity, and existence. There are three stages through which the mind passes in order to secure a total view of the world of which it is spectator. The Middle Age defines physics or the philosophy of nature as the study of the material world in so far as it is borne away in change (*motus*). Change! Whether, indeed, it is a question of the inorganic kingdom or of the realm of the living, of plants or of human life, of

the atom or the electron, of the ion or of the course of the stars: all that *is* in the sensible world, *becomes*, that is to say, *changes*, evolves; or, to use the expression of the Middle Ages, everything is in motion (*movere*). To study in its intimate nature change and its implications, in order to explain through it the movements of the material world,—such is the task of the philosophy of nature.[1] It is easy to see that this study is of a regressive and synthetic kind, that it is general, that is to say, philosophical, on account of the general character of the material investigated (material object), and the generality of the point of view from which the inquiry is undertaken (formal object).

But through all their changes and transformations bodies preserve a common quality, the primary attribute of body—*quantity* —so that the study of *quantity* forces us to penetrate further still into the study of reality. *Mathematics*, which studies quantity as regards its logical implications, is for the ancients a philosophical and therefore general science, and in our day many scientists are tending to return to the Aristotelian notion.

2. The philosophical, that is to say, general, character of practical philosophy is no less apparent, although it is not concerned with the universal order in its objective reality, but with the activities of conscious life (πράττειν) through which we enter into relation with that reality. So that, as Thomas Aquinas explains, practical philosophy is occupied with an order of things of which man is at once spectator—since he examines it by turning upon himself—and maker, since he forms it through his conscious functions.

These great functions are *knowing* and *willing*. Logic sets up a scheme of all that we know, of the method of constructing the sciences; and there is nothing that the human mind cannot know in some imperfect way. *Ethics* studies the realm of our acts, and there is nothing in human life that cannot become the material of duty. *Politics* is concerned with the realm of social institutions, and there is nothing which has not on some side this social character, since man is made to live in society (*animale*

[1] Since man is a part of the world of sense-perception, psychology belongs under physics.

*sociale*). Going more deeply into the analysis of 'practical philosophy,' one might show that logic draws in its train speculative grammar, for it invades grammar and rhetoric—its former associates in the trivium—to draw thence some food for controversy. Paris saw the birth of some true philosophies of language in the speculative grammars of Siger de Courtrai and of Duns Scotus; and the lexicographical codes of Donatus and Priscian which satisfied the twelfth century were at last scornfully rejected. Logic, ethics, and politics all claim to be in touch with the immensity of the reality with which man enters into relation.

3. The same quality of universality should pertain to the third group of philosophical sciences, the *poetical* (from ποιεῖν, to create) sciences, which study the order achieved by man externally through the guidance of reason. Man is at once the spectator and maker of an order he creates; but the order is outside of him, in matter, no longer within him. This third group is the least developed of all. It would seem as if the human product *par excellence*, *the work of art*, should here occupy a large place. There is nothing about it. By a strange omission the thinkers of the thirteenth century who reflected upon everything, did not reflect upon the human activity which inspires epics, makes cathedrals rise, stained windows flame, granite statues live. Dante is perhaps the only one who defined the work of art from an æsthetic point of view, when he called it "the grandson of God."[1] On the contrary, professional philosophers drown their speculations on beauty in metaphysical studies—and this explains the fragmentary character of their work. I cannot, however, refrain from noting how large and humane is the philosophy of art in the mediæval conception; there is no work of man that it cannot clothe in the royal mantle of beauty.

If now, in the light of what we have just said regarding the special sciences and philosophy, we take up again the list of books prescribed in 1255 for the course in arts we shall easily see that this program is drawn on the great lines of the classification of the sciences which we have just noted.

[1] Inferno, XI, 103.

The special sciences first. From the old group of the liberal arts university instruction has preserved only dialectic, grammar, and astronomy. These three are represented by a considerable number of texts in which the masters found ample material for their personal commentary (Aristotle's *Vetus Logica* and the *Liber Six Principiorum*—works by Priscian and Donatus—*Liber Meteorum*, *Liber Celi et Mundi*). On the other hand, the addition of new material bursts the ancient framework, and scientific instruction, greatly enlarged, takes in physics (in the modern sense of the world), chemistry, botany, zoölogy, and human physiology (*De Olantis*, *De Animalibus*, *De Generatione*, *Liber De Sensu et Sensato*, *De Morte et Vita*). The abundant harvest of facts supplied by Aristotle and the Arabian commentators was enriched by fresh experimentation, as one can see by consulting the works of Roger Bacon, Albertus Magnus, Henri Bate, Richard of Middleton and many others. It is not clear how much this material got by observation and experiment is worth; but it is certain that all these facts were studied with the object of furnishing material for philosophy. There is at this time no science which is not envisaged as a road to philosophy. *Nulla est scientia quæ non sit aliqua philosophiæ pars.* To them all, one may apply what Albertus Magnus said regarding dialectic, that it is the *preambulum philosophiæ.* Thomas Aquinas, Godfrey of Fontaines and others borrow largely from special sciences which have no place in the curriculum of the faculty of arts, notably from medicine, and civil and canonic law. Facts about nature and man, about the physical and social man,[1] all parts of the kingdom of experience are called upon to feed the synthetic views of philosophy; and the faculty of arts might have been called with more truth the 'faculty of philosophy.'

Philosophy, indeed, occupies the largest and highest place in the curriculum. Theoretical philosophy is represented by two main works: *Physics* (Aristotle's *Physics*) and *Metaphysics* (Aristotle's *Metaphysics*, *Book of Causes*); and we already know that in the Greek and mediæval conception physics includes

[1] The facts have not been sorted out. The remarkable works of P. Duhem have pointed out the great scientific progress beginning in the fourteenth century and the germs of modern physical and mechanical theories.

psychology. The latter occupies a place of honor through its treatment in Aristotle's *De Anima;* the books, *De Sensu et Sensato, De Somno et Vigilia, De Memoria et Reminiscentia, De Differentia Spiritus et Animi.* Practical philosophy is represented by the *Nichomachean Ethics* and by the *Logic* (*Logica Nova*). Logic is nicely distinguished from dialectic in that the former constitutes a true theory of science.

iii. This ends the program of the faculty of arts, and it remains for us to say a few words regarding a third order of studies which is placed above philosophy and which corresponds, in the comparison that we have been making, to the highest part of a structure, to the top of the pyramid. This is *theology.* The part relating to dogma is an arrangement of doctrines founded upon the Bible. It is taught in another faculty, and we have shown elsewhere how the religious spirit of the time led almost all philosophers to concern themselves with theology, once their philosophical studies were ended.

These three orders of studies—the special sciences, philosophy, and theology,—although quite distinct, succeed and command each other; and it is to accentuate this hierarchical character that I have compared the whole structure to a kind of pyramid of three stages. The instruction at Paris merely reflects the results of three centuries of methodical labor. What is new in the thirteenth century is not the entire distinction between these three kinds of studies—that had been accepted since the end of the eleventh century—but it is the reflective and rational statement of the reasons for this autonomy; and this rests wholly upon the methodological theory given above, viz., that the point of view (*objectum formale*) from which a science considers its material (*objectum materiale*) is always distinctive. And in particular this is why concern with the same questions does not prevent philosophy and theology from being distinct and autonomous.

If one leaves theology out of account, one may say that the hierarchical relation of the special sciences and philosophy is of Aristotelian origin. The Aristotelian origin comes out in the very notion of a science which aims at unity, and in the relation

between the sciences and philosophy. Since the latter rests upon the former, it remains in permanent contact with the facts and is anchored to the very rocks of reality. The Aristotelian inspiration appears finally in the inner articulation of philosophy itself. During the first centuries of the Middle Ages the Platonic division of philosophy into physics, logic, and ethics was for a long time in force. The thirteenth century definitely rejects it or rather absorbs it into new classifications. Compared with Aristotle—the most brilliant professor that humanity has ever known—Plato is only a poet, saying beautiful things without order or method. Dante was right when he called Aristotle "the master of those who *know*." But *to know* is before all things *to order: sapientia est ordinare:* the mission of the wise man is to put order into his knowledge. Even those who do not accept the ideas of the Stagyrite acknowledge his kingship when it is a question of order or clearness. "Three-quarters of mankind," writes Taine, "take universal notions for idle speculations.—So much the worse for them. Why does a nation or an age live except to form them? Only through them does one become completely human. If some inhabitant of another planet should descend here to find out how far our race had advanced, we would have to show him our five or six big ideas regarding the mind and the world. That alone would give him the measure of our intelligence."[1] To such a question the scholars of the Middle Ages would have replied by exhibiting their classification of knowledge, and they would have won glory thereby. Indeed, it constitutes a remarkable chapter in scientific methodology, a kind of 'introduction to philosophy,' to use a modern expression. Whatever may be one's judgment regarding the value of this famous classification, one must bow with respect before the great ideal that it aims to serve. It meets a need which periodically haunts mankind and which appears in all great ages: the need for the unification of knowledge. The thirteenth century dreamed of it as Aristotle and Plato did in ancient times, and as Auguste Comte and Herbert Spencer have in our day. It is a splendid

[1] *Le positivisme anglais*, pp. 11, 12.

product of greatness and power, and it is closely connected with the civilization to which it belongs.

## III. The Sociological Aspects of the Classification of the Sciences.

In the thirteenth century these classifications of human knowledge held universal and undisputed sway. They have a cosmopolitan value. It is not a question here, as in the case of the work attempted by Ampère, Auguste Comte or Spencer, of personal and ephemeral notions, but of results accepted by all. From the middle of the twelfth century the Didascalicon of Hugh of St. Victor, the commentaries of Anticlaudianus and of Raoul de Longo Campo, and the anonymous authors of numerous manuscripts had tried to fix (with numerous individual modifications and variations[1]) the great lines of the Aristotelian classifications. But the time of groping is not slow to end. The treatise *De Divisione Philosophiæ* which Dominicus Gundissalinus wrote at Toledo under the inspiration of the great Arabic philosophers in the middle of the twelfth century opens a new and long series of works on the classification of the sciences. Robert Kilwardby who published about 1250 a special treatise on the origin and division of philosophy—*De Ortu et Divisione Philosophiæ*—one of the most remarkable introductions to philosophy produced in the Middle Ages—only perfected the outline made by Gundissalinus of Toledo. He introduces distinctions, adds details—according to his personal judgment—but invents nothing and does not pretend to. One finds the same classifications in all the writers of the period, in Robert Grosse-tête, Thomas Aquinas, St. Bonaventura, Siger de Brabant, Duns Scotus, Roger Bacon and others; they all run their knowledge into the same mold. Dante recalls these classifications at the beginning of his treatise *De Monarchia*. They do

[1] It happens in the twelfth century that the four branches of the quadrivium (astronomy, music, arithmetic, and geometry) are given as parts of mathematics, and more rarely that the material of the trivium (grammar, rhetoric, logic) are ranged under logic. Grabmann gives examples of this (*Geschichte der scholastischen methode*, 1911, II, pp. 37, 43, 45). There are isolated cases of the division of knowledge into *sapientia* and *eloquentia*—or into physics, theology, and jurisprudence. *Ibid.*, pp. 38, 46, 50.

not exist merely in the organization of studies in the University of Paris, but one finds them also at Oxford and Cambridge—Universities whose philosophical influence goes on increasing up to the end of the thirteenth century. Furthermore, they are the basis of private instruction. I have found them in an unedited treatise (*Speculum divinorum et quorundam naturalium*) written toward the end of the thirteenth century by Henri Hate of Malines for the use of Count Gui de Hainaut, whose instruction he had undertaken. It is one of the rare pedagogical treatises of the thirteenth century written for the use of a lay prince. These classifications constitute the frames rather than the doctrines; and divergent philosophical systems, as for example, Thomism and Averroism, can be enclosed within them—as plants essentially different can grow in the same soil. They are as it were the atmosphere in which all the systems are immersed, the common mental life which hovers over systems and parts of systems. This age, so rich in individuality, knew no conflicts upon fundamental notions; there was agreement upon the points of departure. One does not see in the thirteenth century as in other periods of history one half of the thinkers systematically destroying the bases of discussion which the other half were trying to establish. Now this remarkable fact of general and international agreement is a prime sociological feature of the classification of the sciences, for it satisfies the profound aspirations of a time when men everywhere were dreaming of internationalism: of one science, one system of education, one faith, one morality, one Church, one learned and holy tongue, one temperament to distinguish the feudal nobility who were adopting in all countries the polite manners of France, one style of architecture—the architecture of the Gothic cathedrals which originated in Île de France and spread thence to England, Germany, Spain, and even Italy. It would pass the bounds of this study to show how the Crusades and the great development of commerce favored this expansion, and how the policy of the German Emperors and Popes, before it controlled all Christendom, was influenced by the idea of unity. Thus these things express the same notion as is found in the special sciences and in the scholastic philosophy

dominant in the West, the doctrines of the latter being regarded as a common patrimony built up in the course of the centuries and enriched by the general contributions of society.

One may add that the serenity and optimism so impressive in all the creations of the thirteenth century characterize also this work of classification. The Gothic cathedrals are hymns of joy; the statues, frescoes, windows, Dante's *Divine Comedy*, and St. Francis's *Little Flowers* are all illuminated with idealism; the economic and social awakening testifies to the universal confidence in the salutary effects of work, and this ardent faith doubles the value of the results both in the eyes of the common people and of the directors of the work. This same confidence breathes in the great trust in reason. Reason knows everything imperfectly; it knows something of everything; it proclaims aloud the value of that theoretical philosophy which puts us in touch with a reality outside of ourselves.

Finally, this classification of sciences made by the thirteenth century is touched with the religious spirit; to be convinced of this it is sufficient to consider the place of honor given to theology in the period as a whole and in university instruction. In this way also the classification harmonizes with the civilization of the time; for the age is everywhere marked with the imprint of religion.

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## THE ABSOLUTE AND THE FINITE SELF.

IN his great dialogue, the *Parmenides*, Plato argues that if the one has being, all other things are. The being of the one is not capable of being separated from the others. The existence of the one means the existence of the others which share in its being and are, therefore, whole and infinite without prejudice to their plurality. The others having parts must partake of the whole and be the whole of which they are the parts. Each part, that is to say, is also an absolute one. The result of the union of the others with the one, without which they would not be others than one, is that "the one appears to create a new element in them which gives to them limitation in relation to one another, whereas in their own nature they have no limit." The many, Plato means to say, in their distinction from each other are limited. Each is limited by the relations in which it stands to the others and to the whole, but inasmuch as it partakes of the whole, it, limited from one point of view, is the whole and infinite from another. In short, all particular beings are both finite and infinite.

The great truth to which Plato gives expression in his own way in the *Parmenides* is, I think, not sufficiently recognized by the speculative Idealism of to-day. What this Idealism has successfully done is to show that the world has being only as the objective expression of the Absolute mind. Nature, as a systematic totality of interrelated things, presupposes a spiritual principle of unity of which it is the necessary manifestation. But what is the relation between the things which make up nature and the mind it reveals? We are told, and with truth, that the unity of mind and the differences of the world mutually imply each other, that unity is *of* differences, and differences have no meaning apart from the unity of the self in which they are centered. "The main result of modern philosophy and especially of modern idealism," Caird tells us, "has been to put a

concrete in place of an abstract unity, or, in other words, to vindicate the essential correlation of the self and the not-self." The unity for which idealism pleads is not a unity *beyond* all difference but *in* difference. But if this unity is conceived as only the correlative of the many, it inevitably becomes distinguished from and, therefore, limited by the many, and is, in consequence, reduced to the level of one among many. The one regarded as the correlative of the many is what the many are not, and is, therefore, only a numerical unity. Of course, idealism goes further than the mere conception of the correlativity of the one and many and regards the many as the expression of an inclusive unity. But the full consequence of this view is not realized. The many which body forth the ultimate one partake, as Plato saw so clearly, of the one; and each of them, in spite of the finitude arising from its distinction from and negative relation to the others, is, in virtue of its participation in the one, also whole and infinite. In other words, what we call things are also minds. They are, of course, not minds in isolation from each other and on their own account, but as integral parts of the Absolute mind. If objects are real only as elements of the world-system and if that system is the embodiment of a universal mind, they cannot be mere objects but must be centers of an all-inclusive experience, individualized expressions of the one ultimate mind. The differences in which the Absolute finds expression are determinate forms of the Absolute itself, and each of them must, therefore, be conceived as an infinite mind, infinite, in Spinoza's language, *in suo genere* and *in* the Absolute. What appear to us as things are in their inner being the centers from which the Absolute experiences and appreciates in infinite ways the one world in which it is revealed. They are like the monads of Leibniz, but not sundered and self-centered, conscious of the whole world not potentially but fully and adequately; and individuals, not in their own strength, but as included within and contributing to the life of the Absolute Individual. As Royce puts it: "Whoever conceives the Absolute as a self conceives it as in its form inclusive of an infinity of various but interwoven and so of intercommunicating selves, each one of which represents the totality of the

Absolute in its own way, and with its own unity, so that the simplest conceivable structure of the Absolute life would be statable only in terms of an infinitely great variety of types of purpose and of fulfilment, intertwined in the most complex fashions . . . . We have to regard the Absolute in its wholeness as comprising many selves in the most various interrelation."[1]

The Absolute experience is the totality of the experiences of the individuals embraced within it, in which its whole meaning is embodied. These individuals are relative wholes within the unity of the Absolute and contribute in various and unique ways to its total purpose. The Absolute purpose is realized in and through the purposes of its constituent individuals, and the several meanings of these individuals are coördinated with each other through their subordination to the life of the Absolute in its wholeness. This does not mean that the Absolute life and purpose is anything other than the meanings of the individuals in which it is realized, any more than the ideal and purpose of the State is other than the aims and ideals of its citizens which are brought into coördination with each other through their subordination to it. Just as the others partaking of the One in Plato's *Parmenides* are themselves one and whole having parts, each part being infinite, no matter to what proximate whole it may belong, so the individuals in which the Absolute is expressed, possessing its nature, are subordinate wholes realized in their own differences which, parts of parts as they are, retain, as integral elements of the Absolute, their inalienable property of being whole and infinite. The subordinate wholes do not necessarily exclude but may overlap each other in consequence of the same parts forming constituent moments of different wholes. As the same citizen may be a member of various corporations within the unity of the State, so the same self may belong to different individualized systems within the ultimate unity of the Absolute. The complex and comprehensive meaning of the whole controls and determines the distribution and organization into subordinate systems of the finite-infinite indi-

[1] *The World and the Individual*, Vol. II, p. 298.

viduals in which the Absolute is realized, and, if that meaning requires it, the constitution of these systems may undergo changes through the rearrangement of the elements forming them.

The type of idealism outlined above is, of course, monism, for it insists upon the unity of the Absolute; but what is important to remember is that the Absolute is one, not in spite of but because of the differences in which it is expressed. These differences, to be sure, are objective existences, but objective existences which, by reason of the embodiment of the Absolute mind in them, are also selves. It, therefore, is by no means hostile to the principle for which pluralism contends, only it urges that the plurality of the finite but all-inclusive selves rests upon a unity in which they are all gathered up without detriment to their distinction from each other. The plurality of selves does not simply disappear in the Absolute, nor does the Absolute transcend these selves while sustaining and upholding them, as Lotze and others seem to suppose. The content of the Absolute is no other than the contents of its constituent selves, though it is not a mere sum of them. As the synthesis of them, it gives a new value to them but is not other than they. As a living organism consists only of its members but is not simply their aggregate, as society is made up of individuals but is not merely a collection of them, so the Absolute self is a complex unity which does not go beyond, and yet reinterprets and gives a higher significance to the experiences of the finite but perfect individuals[1] that compose it. Speculative idealism, thus interpreted, incorporates pluralism into itself.

The view that objects of experience are in their ultimate nature selves does not mean that they are reducible to ideas of the mind, or that there is no distinction between things and minds. A thing is a self only in the sense that, viewed from within, it is the subject to which the whole circle of objective experience, relatively opposed to it, is referred. It is one of the infinite points of view from which the Absolute contemplates and appreciates the world and thus ensures the richness and complexity of its experience. The external order of the physical world has for its

[1] The expression is Dr. McTaggart's.

counterpart a system of interpenetrating selves in which the Absolute is realized and of which it is the unity. The reality of nature as a system of reciprocally determining things is not denied. All that is done is to point out that such a system has for its presupposition an individualized system of minds. In his suggestive article on "Two Types of Idealism," Professor Creighton rightly insists upon the necessity of "maintaining the contrast between the material order of nature and the conscious order of mind." "Speculative idealism," he truly observes, "has to accept nature in very much the sense in which it is presented to us by the assumptions of common sense and the physical sciences as an objective order. I fail to find any logical compulsion in the supposed interest of monism to reduce matter to terms of mind, or to interpret it with panpsychism as at bottom composed of mind stuff or psychical entities. All that monism can legitimately demand is that there shall be a *universe;* it cannot on *a priori* grounds require that this universe shall be all of one piece or stuff. The conception of nature and mind as complementary in character satisfies, it appears to me, all the legitimate demands of monism."[1] Idealism can have nothing to say against the main contention of realism. Instead of reducing things to states of consciousness, it allies itself with realism in seeking to destroy the root from which this sort of speculation grows. What are called secondary qualities, it urges, belong to things quite as much as the primary qualities. To separate them from each other and to refer the former to the perceiving mind and the latter to external objects was the cardinal error of Descartes, Locke and others. Berkeley went further along this path of error by reducing primary qualities also to ideas of the mind. As against these views realism rightly urges that objects must be credited with the primary as well as the secondary qualities. Nay, we must go further still and perceive that besides the primary and secondary qualities, things also have what have been called tertiary qualities, viz., the æsthetic qualities revealed to the poet and the artist. But if realism is so bountiful and lavishes on things qualities of different sorts in

[1] Philosophical Review, Vol. XXVI, No. 5, pp. 533–534.

such an ungrudging spirit, why should it not be more generous still and give to them *minds* in order to make it possible for them to enjoy their wealth of qualities? Idealism does not see why the fountain of realism's charity should suddenly run dry as soon as things are vested with diverse qualities. Surely it is intolerable that they should be supposed to have everything except that which alone can make all else worth having, viz., mind. So far then from reducing existing entities to ideas of the mind, idealism of the right kind does the very opposite: it carries mind over to things. It is so greatly in earnest with the doctrine that things are real that it has no patience with the futility of realism when it fails to see that things must have mind to understand that they are real. It, therefore, is in no way hostile to realism, but incorporates the truth of it into itself.

Idealism, as interpreted above, must not be confused with panpsychism, though it heartily endorses the view of Fechner and others that minds can be included in a larger and more comprehensive mind. As Professor Pringle-Pattison points out in his recent volume of Gifford lectures, panpsychism commends itself to many minds because it seems to spiritualize the universe through and through and to afford a way of escape from determinism. But, in avoiding the Scylla of determinism, it is possible to be driven to the Charybdis of irrational contingency mistaken for freedom. Genuine freedom is based upon the necessary order of nature and is impossible without it: The *truth* of necessity, in Hegel's words, is freedom. "The view of nature as a uniform and permanent system of natural laws," as Professor Creighton says, "is a necessary element in a rational experience. The contrast (and in a certain sense the opposition to subjectivity which we are conscious of when facing natural objects and forces) is an important influence and element in a sane and normal life. . . . A steady dependable world so far from being an irritation or balking of reason appears to me to furnish the only possible basis for rationality."[1] It is in the fixed objective order "unmoved by our clamor, indifferent to our moods" that the freedom of the Absolute spirit, in which finite rational beings participate, is realized.

[1] PHILOSOPHICAL REVIEW, Vol. XXVI, No. 5, p. 534.

The other motive which inspires panspychism is to spiritualize the universe, but in the end it completely fails to effect this purpose. Taking its stand upon the law of continuity, it assumes that as we go down the scale of being, things are accompanied by diminishing degrees of consciousness, but that we never reach the zero point. There is nothing which has not at least an indefinite sort of consciousness or semi-consciousness. For this assumption, however, there is not a particle of empirical evidence. Whether or not objects have each a separate and limited consciousness is a question of fact and not a speculative problem, and must be decided, as all questions of fact are decided, by evidence. Apart from this, it is difficult to understand how out of the combination of consciousnesses of various grades and of different degrees of clearness and distinctness, ranging from the mere drop of consciousness of an atom to the clear consciousness of a wide-awake human being, the perfect consciousness of the Absolute can arise. There cannot be more in the total than is to be found in the elements put together. The Absolute mind is the totality of the finite minds; it does not contain any additional factor, nor has it the power to transform the dim and fragmentary consciousnesses of its component souls into its own distinct and adequate consciousness. How then does the perfect arise out of the imperfect, the clear out of the obscure? If the Absolute is composed of numberless units, most of which are only semi-conscious, are we not forced to the conclusion that in its own consciousness there must be shades along with light, dark patches of ignorance along with illuminated spots of knowledge? The Absolute can be regarded as a totality of selves or rather as an individualized system of selves only if we suppose that its constituent selves share, each in its own way, in the perfection of the Absolute life.

Mind, according to panpsychism, is the self-appearance of matter and matter in the appearance of one mind to another. A thing, as seen from within, is a conscious being, but in so far as it is the object of knowledge of another conscious being, it is what we call matter. But if each object has a separate mind of its own, a mind which is itself from another point of view, how is it

possible for it to go beyond itself so as to bring other things within the fold of its knowledge? How can panpsychism explain the self-transcendence of a conscious being without which the combination of minds into a larger mind would not be possible? If A's consciousness is confined within the limits of A, that of B within the limits of B and so on, it is difficult to understand how the gulf between A and B can be bridged so as to make the inclusive consciousness of a more comprehensive mind possible. One thing, in short, cannot possibly appear to another if the mental counterpart of it be supposed to be the counterpart only of itself. Its ideas, being wholly subjective, cannot bring it into touch with realities other than and beyond it. Consistent panpsychism has to face the difficulty which confronted Leibniz when he attempted to explain the unity of the world. He could do it only by having recourse to the hypothesis of preëstablished harmony. But his path was smoothed by his profound doctrine that each monad in principle ideates the whole universe. This, in effect, amounted to the abandonment of the theory of the exclusiveness of the monads. Panpsychism, however, conceives of the units of the world-system as having ideas which are the subjective counterparts of themselves. With this doctrine, the view that lesser minds are comprised within the ultimate unity of the mind of the universe cannot be reconciled, for such inclusion involves the self-transcendence of each constituent mind.

We thus see that individuals, conceived as going beyond themselves in their knowledge and sharing in the perfection of the Absolute in which they are unified, are not mere psycho-physical entities or mind stuffs, but beings completely self-conscious and infinite, each in its own kind. In other words, they are differentiations of the Absolute, and if we are to call them parts of the Absolute at all, it is necessary to remember that they are parts equal to the whole. Panpsychism is quite right in conceiving of the Absolute as a unity of differences, but it errs in thinking that such a unity arises out of the composition of the fragmentary consciousnesses of which physical objects are the outer aspect. It is not a monadic unity but a self of selves, a one-in-many re-

vealed in the world, the structure and organization of which bears witness to its nature.

Such a conception of the Absolute is by no means so novel as it may appear at first sight. As Berkeley claimed that his ideal theory is more in harmony with the convictions of the man in the street than the views of learned philosophers who talk about the 'that I know not what,' so we may say that the theory outlined above is, after all, the expression in philosophical language of what every pious man implicitly believes. Is not God present everywhere in the world complete and undivided, and is he not the life and soul of everything in which he is? Does not this lead us, if we are consistent, to the conception that the One God, as the indwelling God of countless objects, is yet many? The God who is in the pen with which I write is the same and yet not the same with the God who is in the helmet of the Kaiser, the God in the tongue of the orator denouncing German barbarities is not quite the same as the God in the torpedo which sank the *Lusitania*. And yet these various Gods are the one and only God. If we ponder over such considerations is the conception of the Absolute as a self differentiated into many selves likely to seem so very surprising?

The Absolute experience, we have seen, cannot be regarded as the synthesis of finite experiences: it is the finite selves, on the contrary, which arise out of the limitation of the Absolute life and experience. The existence of finite selves is, of course, an undeniable empirical fact and the only rational explanation of them is that they are the manifestations, partial reproductions of the selves into which the Absolute is differentiated. It is not necessary to discuss at this time of day the theory of the creation of souls out of nothing by a God external to them. The difficulties of such a view are well known. The fundamental facts from which we must start are that human beings exist and that they are aware of their finitude. Now the consciousness of finitude, of limitation of any sort, implies the transcendence of it. A merely finite being would not know that it is finite. The fool does not think that he is a fool, nor does the lunatic know his condition. It is only a Socrates who can say, 'I know nothing';

the lunatic who begins to suspect that something is wrong with him is on the way to recovery. Man is notoriously conscious of his finitude, he has always made this the burden of his complaint. This is possible because, finite as he is, he is rooted in the infinite, wells up from the infinite. It is the infinite, in short, that is revealed in him. The idea of the infinite, as even Spencer has shown, is not a negative idea; it is a positive datum of thought, the presupposition and ground of the finite.

The finite self, we thus see, is a partial reproduction of the Absolute. No other explanation is consistent with its essential nature. But we have seen that the Absolute life is distributed into its component centers of experience and has no content over and above them. Man, therefore, can only be a fragmentary expression of a differentiation of the Absolute or of a subordinate system of such differentiations. Every object, we have already argued, is, ideally, a finite but perfect self in which the Absolute is realized. The human body, therefore, must be viewed as a center from which the Absolute experiences in a unique way the whole of existence. As such a center it is a determinate form of the Absolute self. The fragmentary being, man, is only a very limited area of this deeper self detached from it, and it is through it and not directly that he is included in the Absolute. The limited content of his mind is supplemented by that of his transcendental self and as so supplemented forms an element of the Absolute life and experience. The deficiencies of finite consciousnesses, that is to say, are made good before they are allowed to enter the sanctuary of the Absolute.

This theory bears resemblance to that worked out by Royce, and it is encouraging to feel that in making these venturesome excursions into the difficult regions of speculative philosophy, one has the support of so eminent an authority. "In God, in the eternal world, and in unity, yet in contrast with all other individual lives," argues Royce, "my own self whose consciousness is here so flickering attains an insight into my own reality and uniqueness." "We accordingly assert that our life, as hid from us now, in the life of God has another form of consciousness than the one which we now possess, so that while now

we see through a glass darkly, in God we know even as we are known."[1] In answer to the question, what is the nature of the completed self in the eternal world, as distinguished from the human individual who is a finite being with a beginning in time, Royce says: "The plain answer of course is that, as the complete expression of a self-representative system of purpose and fulfilment it is there, viz., in the eternal world, no longer finite but infinite. Yet it differs from the Absolute self in being *partial*, in requiring the other individuals as its own supplement and in distinguishing itself from them in such wise as to make their purposes not wholly and in every sense its own. It is, as Spinoza would have said of his divine attributes, 'infinite in its own kind,' only that, to be sure, its existence is not independent of that of the other individuals, as the Spinozistic attributes are independent of one another. For it is not related to these other selves *merely* through the common relation to God. On the contrary, it is just as truly related to God by *means* of its relation to them. Its life with them is an eternally fulfilled social life, and the completion of this eternal order also means the self-conscious expression of God, the individual of individuals who dwells in all as they in him."[2]

The Absolute, as the individual of individuals of which human selves are only adumbrations, contains the contents of these selves as integral parts of itself. They, as elements of the Absolute experience, no doubt acquire a new meaning, but the Absolute experience is what it is, not through the exclusion but the inclusion of them. There is, therefore, no barrier, no difference of kind, between reality and appearance. The dualism between noumena and phenomena, the world of verities as known to God and the world of appearances as presented to us, has, in one form or another, dominated philosophical thought since the days of Plato, though no one has realized the difficulties of this view more clearly than Plato himself. Parmenides, in the dialogue named after him, asks Socrates, "Will God, having absolute knowledge, have a knowledge of human things?" "Why not,"

[1] *The World and the Individual*, Vol. II, pp. 435–436.

[2] *Op. cit.*, pp. 446–447.

answers Socrates. "Because, Socrates," rejoins Parmenides, "we have admitted that the ideas are not valid in relation to human thought, nor human things in relation to them, the relations of either are limited to their respective spheres. And if God has this perfect authority and perfect knowledge, his authority cannot rule us, nor his knowledge know us, or any human thing; just as our authority does not extend to the gods nor our knowledge know anything which is divine, so by parity of reasoning, they, being gods, are not our masters, neither do they know the things of men." "Yet surely," answers Socrates, almost in despair, "to deprive God of knowledge is almost monstrous." Plato sees quite clearly that the only solution of the problem is to break down the barrier between divine knowledge and human knowledge, though how this is to be done he does not indicate in definite terms and with decision.

Kant's distinction between the world of 'things in themselves' as the object of a perceptive understanding and the world of our experience is, in principle, the same as the Platonic distinction. The theory of Kant, however, is in a state of unstable equilibrium and, closely scrutinized, is found to contain elements which make the surmounting of its dualism inevitable. If we consider only the teaching of the Analytic, we shall have to say that the objective world is strictly relative to our intelligence and does not in any way represent the thing-in-itself. It is a veil which conceals from us the intelligible world, and reason has no power to draw it aside. The forms of perception and thought have no application to, and do not express the nature of the world beyond phenomena. Of the noumenon we cannot say anything except that it is. And yet it is impossible to pin Kant down to this view. His discussion of the third and fourth antinomies brings out the truth that phenomena, as combined into a series of causes and effects, suggest that they are grounded on intelligible principles analogous to self. Objects, it would seem, have a double character, an intelligible character and an empirical character in inseparable union with each other. This means that noumena are not exclusive of phenomena but include them in their own being. The view of the phenomenal world as an

intelligible system expressive of mind is still more explicitly suggested in the *Critique of Judgment*. Nature is here conceived as a system of things adapted to the cognitive faculties of man, and it is in this conception that we find a solution of the baffling problem of the Analytic regarding the possibility of a manifold of sense being made to conform to the categories. The sensations can be subsumed under the categories because, after all, they are not a chaotic manifold but elements of a purposive unity already connected harmoniously with each other. What is this but to say that our knowledge of nature is the self-communication to us of the spirit immanent in it? Kant, of course, does not say this in so many words, but if we are to take seriously the doctrine that the phenomena of nature respond to our forms of knowledge, we must regard them as elements of a noumenon akin to and in fellowship with our spirit. The idea of objects as capable of relation to intelligence leads to the idea of them as produced by the self determination of a subject. Kant's whole theory of knowledge rests upon the doctrine that in order to the possibility of experience sensations must be brought under the categories, and it becomes an impossible doctrine unless we assume that reality is so constituted that it answers to the principles of the understanding. How otherwise can understanding so control sense as to make it conform to itself? Imagination can combine sensations agreeably to the categories only if sensations do not resist and come prepared for the synthetic operation. This is exactly what the *Critique of Judgment* affirms, and if the validity of this view is to be upheld, the doctrine of the relativity of knowledge, so prominent in the Analytic, must go by the board.

It is possible to conceive of the relation between noumena and phenomena in three different ways: (1) We may suppose that the noumenal world is different from and unrelated to the phenomenal world to which the forms of our consciousness do not apply; (2) the noumenon may be regarded as the phenomenal world viewed as the manifestation of the self for which it is; (3) the phenomenal world may be regarded as only a part of a larger world in which the Absolute mind is adequately revealed. Our modes of thought and perception express the nature of a

section and not the whole of reality—that section which acts upon our organism and to which we have to adapt ourselves in order to live. Kant is inclined to favor the first view, but his teaching is not only not inconsistent with but agrees better with the third view. The view that in nature, as we know it, the Absolute is completely revealed, is, in spite of the philosophical garb in which it is dressed, an utterly indefensible kind of anthropomorphism. If nature related to our intelligence is the full revelation of the Absolute spirit, that spirit can only be an enlarged edition of the finite spirit and will be of no avail for the purpose of solving the problems to which the imperfections of our consciousness give rise. The categories of the human understanding, for example, are not a completely unified system; and if the contents of the Absolute consciousness are not richer and more coherent than the contents of the human consciousness, we have to admit that even for the Absolute the lacunæ of thought and experience are not filled up and, as a consequence, the different elements of them are not brought into perfect accord with each other. The antinomies of thought arise because we, so to speak, view the circle of reality from a point at the circumference and not from the center. If we could survey the world from the center we should see more, the field of observation would be wider than is possible for us when located in the circumference. There is more in reality than is revealed through our modes of perception and thought, and if we could live the life of the Absolute, all the rough edges of experience would be smoothed and all its blanks filled up. The singleness of comprehension in which the differences of centers of experience are at once preserved and annulled, the continuity of interpenetration of its integral components, the intuitive perception of the meaning of the whole in each part and of the fulfilment of the part in the whole, the complete harmony of the universals of thought with the particulars of experience which must characterize the Absolute, are only an ideal for us and *our* type of consciousness, however much it may adumbrate the Absolute, and can only be regarded as the germ of which the latter is the full development. The ultimate *form* of all reality, self-consciousness, is indeed in us, but the *content* of our consciousness, though a

part of the whole is not the whole. The categories are only partial views of a reality which they sketch but do not paint.

If it is impossible to equate the content of the Absolute consciousness with nature, it is equally impossible to set up a barrier between the intelligible world and the sensible world. If the noumenon excluded the world of our experience, we, living in this world, could not even think of the noumenon; and if we *do* think of the noumenon, it is because we are related to the principle of which the phenomenal world is an integral element. A noumenon that includes the phenomenal world within itself would be *more* of a noumenon than one which does not. The Absolute is, no doubt, a self, but it is a self which is manifested in an infinite number of ways in an infinite number of things. It is a whole which is completely and indivisibly present in each particular thing, in virtue of which all things are also perfect selves and form a unity of system, and through these selves is bound up with and constitutes the essence of finite selves. It is for this reason that in each act of cognition we are in touch with the whole and mean the whole. As organically related to the infinite, we are *in form* infinite, and this is the reason why at every step the process of our cognition is guided, implicitly or explicitly, by the idea of the whole. But *in content* what we know forms only an element of the total wealth of the Absolute consciousness. The categories of our thought and the matter of our perception enable us to comprehend some aspects of the portion of reality with which we have specially to deal during this life, and are in this sense subjective. They neither constitute the whole content of the Absolute nor screen the intelligible world from our view. They truly define, not the Absolute life as lived by the Absolute, but certain modes of its manifestation and are valid so far as they go. With the growth of our mind other aspects of the Absolute reality may come within the purview of our knowledge, for the proper interpretation of which other categories than we have at our disposal at present will, no doubt, be needed. This, however, does not mean that the categories which serve us at the present level of our experience will then be invalidated, but that they will become absorbed and transformed into others, richer and more adequate.

But at each stage of its development the finite self is a whole and, as such, is in indivisible union with the complete whole.

Speculative idealism has been adversely criticized in recent times on the ground that it renders change and evolution unmeaning and makes genuine novelties impossible. It is supposed to take all life and movement away from the world and to reduce it to a static, timeless, block universe. But to say that the Absolute as an all-inclusive whole does not itself change is not to deny that it is realized in and through the successive events of flowing time. Surely, to maintain that the world as a whole is not an event at a particular moment of time is not tantamount to affirming that events do not occur and are not comprised within the unity of the Absolute. One may go the whole length with the apostles of time and change without forgetting that the presupposition of the temporal order is an eternal order which contains change as a necessary element of itself. The Absolute is timeless only in the sense that it knows the whole of time all at once, and this presupposes the occurrence of change. Just as a man who intelligently carries out a day's plan of work has all along the whole plan in view even though he realizes it step by step in the course of the day, so the Absolute eternally knows the meaning of the world drama progressively unfolded in time. M. Bergson has made himself the champion of a continuously flowing time, of what he calls *durée réelle* which "is the continous progress of the past which gnaws into the future and which swells as it advances." This is simply to emphasize one-sidedly the continuity of time at the expense of its discreteness. Time is not simply a continuous flow any more than it is a mere sum of discrete moments. M. Bergson commits the mistake of separating continuity from discreteness. As for the view that the movement of time is not towards any goal nor guided by any purpose, the apparent plausibility which it has arises from the fact that finite beings like us are often unable to discern the trend of events or to discover their meaning. But to infer from this that the flow of reality is not determined by any final purpose is like arguing that because the hearer may not know what the speaker is driving at, the speaker himself is ignorant of it.

It is not easy to say what exactly in M. Bergson's view the ultimate reality is. Only this we know with certainty, that it is in a state of ceaseless and continuous flux. But an aimless flux, a becoming without an end, is an altogether irrational conception.

It must, however, be admitted that the conception of the Absolute as apprehending the whole of time in one glance, as it were, is not wholly free from difficulties. There still remains the puzzle, how an unending series in which there is neither a first nor a last event can be completed even for the Absolute insight. The only solution would seem to be that the Absolute has a form of consciousness in which time is superseded without being annulled. As Professor Pringle-Pattison says: "The time process is retained in the Absolute and yet transcended. Retained in some form it must be, if our life experience is not to be deprived of all meaning and value. The temporal process is not simply nonexistent from the Absolute point of view."[1] But "although the experience and the relations of time must be represented in the infinite experience this must be in a way which transcends our human perspective." How precisely the eternal order exists for the Absolute it is not possible for us to say.

As for the objection that genuine novelties and progress in time are incompatible with monistic idealism, it rests upon the preconception that the Absolute is complete *without* the finite selves and their life history. James who urges this objection with great force himself suggests the answer. Finite minds, he points out, may be regarded not as useless repetitions of what the Absolute already contains but as constituents, organic members of it. But after making the suggestion he runs away from it with the remark that this is "employing pluralistic weapons and thereby giving up the Absolutist case." But has the Absolutist, who understands his business, ever fought shy of plurality? Has it ever been his contention that the Absolute exists apart from the activities and struggles, the joys and sorrows, the successes and failures of finite lives? "The one will of God," Royce, for example, tells us, "is expressed through the many individual wills; . . . simple unity is a mere impossibility. God cannot be one

[1] *The Idea of God in the Light of Recent Philosophy*, p. 363.

except by being many. Nor can we various selves be many unless in Him we are One."[1] It is true that human selves are fragmentary expressions of the perfect selves of which the Absolute is the unity, but this does not mean that they are mere imperfect copies of them. The finite self comes from the Absolute, owes its existence to the self-limitation of the Absolute, but by reason of this it acquires a new meaning and value and is never a superfluous repetition of what already is. It, no doubt, draws the materials of its life from the infinite riches of the Absolute thought and experience, but once detached from the Absolute it, while resting securely in it, sets up its own household and contributes its own humble but unique share to the total meaning of the Absolute life. As an element of the whole, it has its appointed place in it, which cannot remain vacant and must be filled in due time. What that place is the Absolute eternally knows. Just as the contents of the finite consciousness, as supplemented in God, get a new significance, so the finite emanating from the infinite becomes a fresh individual with its own distinctive meaning. The Absolute as an individualized system of the perfect selves into which it is differentiated for the realization of its own purpose, expresses itself in the finite selves, and through the life-processes of these selves, their varied experiences, coöperative activities and progressive achievements, of which history is the record, returns, in man's religious consciousness and in his philosophical knowledge, into itself. As such it is the Absolute Spirit.

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[1] *The World and the Individual*, Vol. II, p. 331.

## AN APPROACH TO MYSTICISM.[1]

IT is a tribute to the importance of mysticism that judgments about it are rarely temperate. Their burden is either extravagant praise or vigorous condemnation. For the most part we are asked to regard it either as the parent of all confusion or as the highest achievement of the human spirit. And so we find one writer of distinction beginning his work on mysticism with these words: "The question presents itself to us with this alternative: either mysticism contains a negation of thought worse than scepticism, or it is the most perfect activity of the mind."

My purpose in this paper is not to argue directly in support of either of these claims, but, less ambitiously, to try to diminish in some respects the violence of the opposition.

The method of treatment is determined by a belief that much of the antagonism to the mystic is due to an initial feeling of unfamiliarity in his presence. We try to follow him in his difficult withdrawal from the world of common interests and activities, in his equally painful inward concentration. We mark with him the different stages in his spiritual pilgrimage. We watch his alternations between exaltation and despair. We listen to the reports of his beatific vision. Yet in all this there may be nothing which finds us, nor in which we can find ourselves. At first sight there is nothing to stir the hopeful response, "I know what you mean." We can see here only a too strenuous cultivation of a peculiar ambition, and our natural impatience soon leads us to brand the peculiar as the abnormal and the abnormal as the mischievous. It would seem, therefore, that the first step in the overcoming of this 'pathos of distance' should be an attempt to show that mysticism is not so alienated from human nature. If we could establish that the mystical life is unusual by degree and not by kind we should have laid a basis at least for mutual understanding. With this object in view I

[1] The writer wishes to acknowledge special indebtedness to the work of Professor W. E. Hocking.

try in what follows to point out some analogies between familiar human needs and happenings and some of those features of mysticism which to its critics have appeared especially remote.

I. *The Renunciation of Thought.*—He who follows the *via negativa* must, it would seem, suppress thinking. The faculties of the soul are to be laid asleep. As far as possible one must insulate oneself from the solicitations of the senses. One must restrain the will from taking any definite direction. One is not to form any ideas of that for which one is looking.[1] This last requirement seems to mean that one should not expect any object definable in terms of what is already known. It has been taken to mean, in positive terms, that the mystic is trying to hold himself open to the experience of pure novelty, that he is attempting to recapture some primitive innocence of the mind.

The obvious criticism of this undertaking has often been made: a mind reduced to a state of pure receptivity—if that were possible—would cease to be a mind. To be a mind is to have a set of interests which, in Kantian fashion, predetermine the possibilities of experience. Pure novelty or brute fact could not exist for it. Therefore, says the critic, the real meaning of the mystic ambition is the suicide of thought. So, from this point of view, Professor Royce writes: "When the mystic, defining his goal wholly in negative terms, lays stress upon the contrast [between finite and infinite] as simply absolute, he finds that so far his Absolute is defined as nothing but the absence of finitude, and so as apparently equivalent to nothing at all."[2] In thoroughgoing mysticism Professor Royce sees nothing but negations. Professor Santayana is even more severe. He perceives in the mystic's intention something wilfully destructive. "The ideal of mysticism is accordingly exactly contrary to the ideal of reason: Instead of perfecting human nature it seeks to abolish it; instead of building a better world, it would undermine the foundations even of the world we have built already; instead of developing our mind to greater scope and precision it would re-

[1] The various devices which seem to aim at a fixation of the attention are really intended only to draw off attention from its occupation with the objects of current living.

[2] *World and Individual*, I, p. 181.

turn to the condition of protoplasm—to the blessed consciousness of Unutterable Reality."

We might leave the matter thus, and bow the mystic out of our philosophical world but for one arresting fact. Although he seems to have precluded himself from the attainment of any knowledge no one has more persistently claimed to be burdened with a freight of knowledge than he. He may find difficulty in uttering the meaning of what has happened to him. Where he finds the power of expression the actual fruit of his insight may appear meager or trivial. He may even be so far conscious of the logical difficulties of his situation that he is driven to invent some special organ of religious knowledge—thus merely transferring the problem to a different region. But these facts, important though they are, should not lead us to dismiss or ignore what William James singled out as one of the chief marks of mystical experience—noetic quality. One might well pause then to see if there be not some other meaning for this renunciation of thought.

To begin with, we may note that the critics of the mystic have done some injustice to his intention. It is not accurate to say that he defines his goal as the Undefinable. Professor Royce imputes to the mystic an interest in defining the Absolute; but that is just one of the interests which the mystic is trying to suppress. The command implied in that arduous preparation of his is rather: Do not try to define to yourself that for which you are waiting.

If we are looking for some analogy to this procedure, the example of scientific method may properly occur to our minds. The much-prized impartiality of the investigator, that zealously cultivated dispassionateness by which he is to become mere observer and reporter of pure fact, is very like the ideal requirement of the mystic. Yet we do not accuse the scientist of any impossible ambition. We recognize that he is emphasizing, perhaps over-emphasizing, one side of his technique, but we acknowledge at the same time that no one can expect to add anything to the body of scientific truth who is not willing to expect the unexpected and to practise an alertness towards the

novel in experience. Thus, as James has somewhere pointed out, there is something paradoxical about the scientific temper of mind. One must not surrender one's hypothesis too easily: one must hold to it even in the face of facts which seem to controvert it; but, on the other hand, this tenacity must not impair one's watchfulness for the new fact which may upset the hypothesis. One must be as ready to abandon the hypothesis as one is to hold fast to it. One must be a good conservative, and, in order to have something to conserve, one must be a good radical. In the skilled investigator the difficult alliance of these two loyalties is in some degree achieved and maintained.

For our present purpose it is this necessity for yielding up one's best insight which is to be noted. And with this clue in our hands we may see that there is nothing peculiar in the situation of the scientist: it is our common situation wherever the mind advances. If knowledge is to grow it can do so only through some constant readiness on our part to hold ourselves open to experience. To stay within the circle of established judgments is to condemn the mind to stagnation. The moral principle which is not open to revision, the hypothesis which evades the negative instance, the idea which does not look for correction, and the system of beliefs which dreads any threat to its finished consistency—these are machines, not organs; dead things, not the living processes of mind. "Life is a series of surprises. We do not guess to-day the mood, the pleasure, the power of to-morrow, when we are building up our being. . . . I can know that truth is divine and helpful, but how it shall help me, I can have no guess, for so to be is the sole inlet of so to know. The new position of the advancing man has all the powers of the old, yet has them all new. . . . I cast away in this new moment all my once hoarded knowledge, as vacant and vain. . . . The way of life is wonderful. It is by abandonment."[1] Emerson is right. Every moment of conscious living is new in part and unpredictable. A mind can determine within limits how experience shall come, but it cannot determine beforehand the detail and particularity of that experience. I know no bolder and finer

[1] Emerson, *Circles*.

statement of this truth than that which is contained in the following passage. "We must have consistency in the end; we must have connectedness; we must have unity: but for the sake of having this ultimate unity and order, anarchy and discontinuity must have their moment. That sort of self-possession which is made of continuous rationality must be held subject to self-abandonment, when the hour of empirical truth arrives. And the hour of truth is always present. Idolaters of self-possession as we are: do we not see that every pulse of consciousness is full of the tumult and wonder of these plunges into the ununified and returns therefrom? That sensing, listening, accepting the hint of any honest emotion, every merest decision such as the instants of living are made up of—all of these contain some commitment to the unknown, some such willing embrace of a momentarily broken rationality."[2] We can put the matter briefly by saying that if our knowledge is to be systematic we must be unsystematic in our ways of knowing. We trust that somehow the new and the old will be reconciled, but the resulting system must be a living thing, and we shall get this not by trying always to interpret the new as a form of the old as pure rationalism, if there be such a thing, would have us do, nor yet by regarding everything as new, as pure experimentalism might urge, but by allowing free play in turn to each of these interests of the mind—the interest in the old and the interest in the new. If the system of knowledge be organic and not mechanical then it must be achieved through a coördination of functions.

These considerations suggest what is, I believe, a more fruitful interpretation of the mystic's negations than that which sees in them a hopeless pursuit of the Unutterable. The mystic defines not an object of knowledge but a way of knowing, and since it is God that he is trying to know we may say that he confronts us with the claim that God can be empirically known. If there be any such thing as religious knowledge, then here too "anarchy and discontinuity must have their moment." For the sake of an addition to knowledge one must cast aside his stock of wisdom about God and suffer first an addition to the knower. If God

[2] Hocking, *The Meaning of God in Human Experience*, pp. 399–400.

is to be known of man he must be first worshipped as the God who is unknown.

II. *Passivity.*—The attainment of passivity is an important part of the mystics' ambition. Their preparation has required a violent reversal of the ordinary currents of living, a reversal which involves not only a retirement from the external work of the world but, internally, a suppression of mental activity as well. Looked at from outside, the goal of this preparation appears as something purely negative: an absence of all positive occupation of the mind or direction of the will. They seem to define their highest good as torpor or death. The frequent appearance of quietism in the history of mysticism might be taken to confirm this estimate.

If this be our interpretation of the mystic motive, then our rejection of it on both moral and logical grounds would be sound. But there is a kind of passivity that is not necessarily incompatible with action, and I suggest that we shall do better to regard this as the mystic type.

It is a common experience to doubt the worth of effort. Struggle often seems to make us less real. In the midst of our strivings a voice will cry, "Why so hot, my little man?" We may turn to the silent ease of nature's ways as towards an ideal, and the sun's unwearied march across the heavens, the slow drift of a fleet of clouds, or the still perfection of trees at dawn, will hint at a kind of life which is free release of power rather than painful reaching out after some object of the will.

In small things as in great nature becomes our model for this kind of spontaneity. Nature is the region where things just happen without obvious preparation, deliberation or parade. But we know that to do a thing 'naturally' is a task of no little difficulty. We have to make an effort to eliminate effort. The acquisition of any piece of skill illustrates this. To the beginner in golf we say, "Keep your eye on the ball, *don't press*, follow through." Voice production is a matter of suppressing certain muscles so that others may do the work naturally or 'of their own accord.' One's state of mind in such attempts to attain facility is very curious. One is attempting to suppress the efforts of the

calculating, self-conscious being; that is, one is straining to get rid of strain. But our goal is not the absence of all action, not a torpor of all the muscles. We are clearing the way for a freely acting power which we call nature to come in and act through us. We are trying, in short, to become organs of nature.

Our desire for spontaneity or naturalness in matters of conduct is no less sincere. We do not want primitive innocence; but, on the other hand, the deed which obviously costs us an effort or is done from a sense of duty is somehow not so valuable, morally, as the deed which, so to speak, drops from us as the ripe fruit of character.

"A man on tiptoe," said the old Chinese philosopher Lao Tze, "A man on tiptoe cannot stand. . . . Superior virtue is unvirtue, therefore it has virtue. Inferior virtue never loses sight of virtue. Therefore it has no virtue. Superior virtue is non-assertion and without pretension. . . . Therefore the holy man says: I practise non-assertion." Our purpose becomes identical with that of Lao Tze: practise non-practice. Get rid of self-conscious effort.

Now to external inspection this may look like the cultivation of passivity in the sense of the abandonment of all activity. But we know from such examples that, seen from within, our aim is not this, but rather the substitution of one kind of activity for another. We shall do justice to the mystic if we see in his elaborate process of self-suppression a similar motive at work. God is for him, in relation to a painful and calculating type of morality, what nature is to us in our desire for technique. Passivity, thus understood, is not his ultimate object but simply the preliminary condition for God in His freedom to enter in and take control of his life.

I do not say that this reading of the meaning of his efforts will necessarily give us a favorable judgment upon them, but it may put us in possession of that which is to be judged.

III. *Naïve Optimism.*—Historically, the mystic has been an optimist. Confronted with the frailty of human hopes and the uncertainties of human fortune he has preserved an enviable consciousness of security. In a confused and confusing world he

has been sure of unity and meaning, quick to discern traces of divinity everywhere about him.

This persistent mood raises doubts in the minds of those who cannot share it, not so much because of its optimism, as because the optimism seems to have been too easily purchased. A composite portrait of the mystic, it has been said, would reveal a face without many puckers in the brow. He seems to have disposed of the world's disorder, not by seeing through it, but by ignoring it. He is too artless, too simple-candid in his assurance that all is well with the universe. He lives for much of the time so possessed by his vision that the world of time and circumstance is for him but a passing show. To the dwellers in this world he seems to be claiming to be in possession *now* of the final good. And for struggling humanity this is tantamount to blasphemy. A highest good there may be, but at best, we think, it is something remote, some heritage upon which we may some day enter. To say that the world is in any sense perfect now, as the mystic seems to do, is to deprive moral ambition of all meaning and to leave us to stagnation. The mystic is living as if the goal of human effort were already attained. His optimism is of a piece with his passivity.

If this judgment were sound we should have to look for analogies to mystic experience in those movements of surrender and relaxation which automatically bring relief to a strained body or mind.[1] The mere abandonment of effort will often produce a feeling of simplification and repose, especially when that effort has reached the stage of being 'unnatural.' And just as the painful moral preparation of the mystic may seem to an external observer to be a morbid business of self-analysis and self-discipline, so the blissful consciousness of security that supervenes may be regarded as the natural accompaniment of a profound and almost organic relief.

[1] "There are only two ways in which it is possible to get rid of fear, anger, worry, despair, or other undesirable affections. One is . . . by getting so exhausted with the struggle that we have to stop, give up, and *don't care* any longer. Our emotional brain centers strike work, and we lapse into a temporary apathy. . . . So long as the worry of the sick soul guards the door, the expansive confidence of the soul of faith gains no presence. But let the former faint away, even but for a moment, and the latter can profit by the opportunity, and having once acquired possession, may retain it." James, *Varieties*, p. 212.

But a more hopeful clue will be found in the idea of 'a moral holiday.' Taking a holiday differs from mere 'quitting' in two ways. First, by going on a holiday one does not condemn the worth of the work one leaves. One intends to return to it. One does not stop altogether; one merely pauses. Secondly, one knows that there is some connection between rest and work by virtue of which the period of holiday pays into the period of work with added energy and enhanced enthusiasm. No doubt the connection is largely mechanical; but it is not wholly so. For one can see *how* rest leads to recuperation. In as far as one knows what one is about in taking a holiday the dominant motive is the desire to recover a sense of proportion or perspective. Attention continuously directed on one subject has a way of wearing out: focus becomes too fine, and we meet the fate of every specialist—blindness through excess of light. Our work becomes meaningless and inspiration flags because we cease to see the bearings of our effort upon our other undertakings and upon the world of human tasks. The need for holiday is the need for a return to the undifferentiated largeness of the field, as upon that which has to be focused. It is as though we were seeking to appreciate some total value and so to restore meaning to our separate activities. In holiday this restoration of meaning is to some extent *consciously* sought, and, so far, earned. By contrast, the type of relief which comes from merely giving up is wholly obscure. To the subject of it the process is purely magical. He does something and something else follows, for no discernible reason.

We need moral holidays because morality produces its own type of strain. As moral beings we are engaged in the pursuit of some total good, a good, that is, in which all of our nature is to participate. The thing itself is vague, so vague names—happiness, blessedness, self-realization—may be used to indicate it. But it has been commonly observed that we may not hope to achieve it by pursuing it *as* happiness or blessedness. Constituted as we are, we are forced to pursue it under various forms. A world of manifold values—beauty, truth, righteousness—then confronts us. But in time we begin to pay the

penalty for this forced division of labor. In so far as we are serious with these values, each comes to represent the absolute good and each claims whole-hearted service. And with this the ends we pursue become alienated from each other. Each seems to become a thing of independent worth. Art for art's sake; truth for truth's sake; morality for morality's sake—these become the cries of the hour. Yet such threatened division of sovereignty is intolerable. For we know that none of these things prosper in solitude. The man who construes his undertaking as its own end confesses that his work has lost touch with life. Mere art yields only decoration; mere truth pedantry or cynicism; mere morality casuistry or formalism. These separate claimants must somehow learn to live together. In the long run we should not be content to have righteousness without beauty, nor truth without righteousness; for we believe that these are but forms of some total good. And yet the requirements of conduct continually force us to lose sight of this truth. As moral agents, we are bound to behave as if every commitment were final and as if every enterprise were the absolute good. Nothing less is implied in taking our work seriously. From whence then shall the correction come? Only, I believe, through some kind of reversal of the direction of the practical will such as we might well indicate by the phrase 'taking a moral holiday.' We must turn away from the special forms in which we pursue the good to some appreciation of the good in its wholeness, to an experience in which we may recapture that enthusiasm which is the parent of all particular loves.

Here we touch the motive of that "flight of the alone to the Alone." Mysticism may be understood as a sort of search for what *we are after* in all the scattered forms of human enterprise. The mystic claims to have enjoyed, if only for a moment, an apprehension of what final blessedness, in its wholeness, if not in its detail, is like. For him the good is all here now.

And we might add that it is fitting enough that he should describe this attainment as, in some sense, an escape from the flux of time. "Time is the form of the will." As our wills move towards satisfaction the consciousness of time tends to disappear.

We rarely find ourselves living in the present. The present is usually no more than a stepping-stone to some hoped-for satisfaction. But as the worth of that which occupies attention increases, so we become more 'absorbed.' The distinctions between past, present and future lapse, as the objects of attention come to be valued for their own sake. And so we frequently find experiences of supreme worth reported as times when one lived in a perpetual present and the moment was made eternity. To say that one lives eternal life in the midst of time is not therefore necessarily to speak blasphemy: it may simply be a way, and an appropriate way, of indicating the transcendent value of an experience. The future seems irrelevant because the future can add nothing to the blessedness in which we participate *now*.

IV. *The Apparent Emptiness of the Mystic Knowledge.*—The mystic is perpetually announcing a revelation of the profoundest import. He has seen into the meaning of things, or perceived how all things are united in God, or stood in the presence of the Most Real. But in spite of his exaltation and his certainty he does not seem to have followed up this clue to reality. He has not made any obvious additions to metaphysical knowledge. He seems to have remained hypnotized upon the fact of his own insight. Indeed, so devoid of meaning does his experience seem to be that it has been exposed to the damning criticism of representing "the form of certainty without the content."

The mystic is, in truth, more ecstatic over the fact *that* he has seen than explicit about *what* he has seen. We do well to demand from him an explanation, but in our urgency we may not forget that common life has made us acquainted with his situation.

All truths are wonderful; yet they have a way of becoming familiar. The excitement with which we furnished the house of knowledge is soon forgotten and the rooms take on an everyday look. Yet sometimes we have memorable moments when there dawns a new meaning on old truth and we recapture some of the enthusiasm which surrounds first discoveries. Something may happen to rejuvenate a platitude. Thereupon ensues a celebration of the mere fact that such truth exists,—a celebration which to the spectator may seem merely a perverse dervish-

dance about the undeniable. For example, "I exist," is a harmless and perhaps necessary truth. Yet here is Richard Jefferies in the presence of that discovery. "Sometimes I have concentrated myself, and driven away by continued will all sense of outward appearances, looking straight with the full power of my mind inwards upon myself. I find I am there: an I, I do not wholly understand or know. Something is there distinct from earth and timber, from flesh and bones. . . . The fact of my own existence, as I write, as I exist at this second, is so marvellous, so miracle-like, strange, and supernatural to me, that I unhesitatingly conclude I am always on the margin of life illimitable and that there are higher conditions than existence."[1] Shade of Hume! one feels inclined to exclaim. But for a similar experience see the well known case of Tennyson.[2] The discovery of another person's existence may be, and more commonly is, just as exciting as the discovery of the self. Does not the mere fact of the beloved's existence furnish the theme for more than half of the rejoicings of lovers?

Now I do not doubt that these are genuine achievements in knowledge and that in time their meaning is destined to become clear to the persons concerned. But when for the first time we 'realize' a fact or 'wake up to' a truth we are inclined to signify the importance of our insight by simply reiterating the thing itself, or rather we insist on the event as such, because, although we are aware that something portentous has happened, we are unable to declare at once wherein its importance resides. In all such experiences the novelty lies less in the thing found than in the finding. "Whereas I was blind, now I see"—that is the essence of it. "But what do you see?" "Leave me alone.—I see!"

By suggesting that mystic illumination belongs to this order of experiences I am proposing to ignore the apparent emptiness of that knowledge and to see in its rejoicing a celebration of the accessibility of God. The mystic is the individualist in religion: he will find God for himself without the aid of the persons and in-

[1] *The Story of My Heart*, ch. iii.

[2] James, *Varieties*, p. 384.

struments of the religious institution. The historical enemy of all official mediation between man and God, he seeks a personal discovery of God. He finds, so he says, the Being he sought. Is it any wonder that he should be so possessed by the fact of the finding?

In what I have written I have not tried to judge the claims or purposes of the mystic, but only to hint at what those claims and purposes are. My object has simply been to suggest some clues for an interpretation of some of the more perplexing aspects of his career by showing that in mysticism we are not dealing with an isolated phenomenon but with a type of experience for which we can find fruitful analogies on the familiar levels of life.

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## THE PRESENT-DAY CONCEPTION OF LOGIC.

THE science of logic which is at the present time the center of a very lively and widespread interest has in recent years undergone some very marked and noteworthy developments. These new developments, however, have not proved convincing to many students of the subject because the transition from the older to the newer point of view has not received clear presentation. It is with this in mind that the following brief statement has been formulated. It is an effort to set forth simply a point of view from which this transition becomes an easy and natural one.

In the first place the present-day conception of logic differs from the traditional one in regarding logic as the science of relations instead of as the science of the laws of thought. This transition is readily made if we take thinking as the grasping of relations. One advantage of referring primarily to the relations involved rather than to the act of thinking lies in the 'objective' status thereby imputed to the content of logic. The term 'thinking' has a subjective reference which, in the present interpretation of logic, should not be emphasized. The older view apparently set logic within the field of psychology. From the newer standpoint logic belongs to psychology in no sense other than that in which the natural sciences belong to it. The determination of the connection of relations in general with the individual thinking mind depends upon the solution of the metaphysical problem of the relation of the individual to reality at large. Toward this problem the logician as such assumes an attitude of indifference. The laws of logic hold, whatever the true system of metaphysics may prove to be. And when the logician discusses this question he is for the moment stepping aside from his special task and asserting himself as a human being of broader interests than merely that in logic.

Relations may be regarded as subjective or objective ac-

cording as the facts they relate are subjective or objective. The laws of relations are valid in either case. The discovery of relations and their connections of course involves experience. But this is true of all science; it is not distinctive of logic. Furthermore, even from the older standpoint the implication of the thinker in the matter received no emphasis after the initial definition. The newer conception is therefore a better formulation of the real character of the subject than the old. This is the justification of its claim to progress.

Another advantage of the new view is that by way of the study of relations there has been effected a contact with a much larger field than that of the older view. The latter dealt preëminently with the implication of one proposition by another. But for certain purposes, *e. g.*, conversion, this was transformed into the relation of membership in a class. This transformation, however, was possible only because these two relations were possessed of certain common features. They were thus made equivalent subspecies of a more comprehensive type. And the fundamental features of this type were the real basis of the operations which were performed upon propositions.

The fundamental features of this type are its transitivity and its asymmetrical character. It is transitive in that if it holds between a first and a second term, and also between this second and a third, then it holds between the first and the third. Its asymmetrical character consists in that though it holds between a first and a second term when taken in one order or direction, it does not at the same time hold between them when taken in the opposite order. The former is readily seen to be the fundamental basis of the syllogism. The latter lies at the basis of the impossibility of converting the universal judgment simply.

As expressed in the older logic, these were laws of the relation of propositions to each other. But propositions are not the only entities which stand in such relations. Nor are implication and the relation of membership in a class the only relations which are possessed of transitivity and asymmetrical character. The older logic was occupied with certain instances of transitive asymmetrical relations, without grasping their essence *per se* and the

full sweep of the type. Interesting it is to note, however, that only by depending upon these fundamental aspects could it perform the very operations which were so essential to it. It is the virtue of the newer interpretation that it has appreciated these very fundamental facts. It deals with the entire problem of logic by means of these more general aspects instead of the special features which concerned the older conception. In this way it not only keeps the truth of the old, but places it on a more ultimate and deep foundation. It generalizes the truth of the traditional methods. And this generalization has enabled it to include within its scope situations which could not be dealt with before.

Under the new interpretation the law of the syllogism becomes a law of transitive relations in general. It thus becomes applicable to cases not included under the older treatment of the syllogism. For example, the syllogism dealt with a middle term which had to be a universal and 'distributed.' The general law of transitive relations, however, applies equally well to singular terms. Thus if we begin with the assertion: $A$ is to the right of $B$, then by the syllogism we must have some assertion about all objects that are to the right of $B$ in order to be able to draw any conclusion. But by the newer formulation of the law, if we know that $B$ is to the right of $C$, then we may draw the conclusion: $A$ is to the right of $C$; a conclusion which to general experience is of equal significance with the one drawn by the older method. The new conclusion is possible by virtue of the transitive character of the relation of 'being to the right of.' We have drawn a valid and significant conclusion here from individual to individual. Of course if we do know something about all the objects to the right of $B$, and are interested in that class, then there is no objection to drawing a conclusion in accordance with the traditional syllogism. The two cases are simply two different instances of the general law of transitive relations.

It is worth noting that under the older method the transition from subject to predicate is effected by the copula 'is'; under the new it is expressed by the relation 'is to the right of.' The two views of the situation really give two different problems to be

dealt with. But the key to each lies in the recognition of the situation as a case of the law of transitive relations. In view of all this we may generalize the law of the syllogism thus: If a term has a transitive relation to a second term, and this second term has the same relation to a third, then the first has this relation to the third. In the application of this law the terms may be either general or singular.

The law is thus stated as a law of relations, not as a law of thought.

The question now arises whether there is any similar law for intransitive relations. There is, although it is more complicated than for the case of the transitive. It is expressed symbolically thus: $(aR_1b), (bR_2c) < (aR_1{}^*R_2c)$. That is, if $a$ has an intransitive relation to $b$, and $b$ has an intransitive relation to $c$, then the relation of $a$ to $c$ is constituted by the relative product of $R_1$ and $R_2$. It may be illustrated as follows: John is the father of William, and William is the father of Henry. But the relation of 'being the father of' is not a transitive relation. It therefore does not hold between John and Henry. The relation of John to Henry is the relative product of the two relations, and has been given the name 'grandfather.'

It is thus apparent that both transitive and intransitive relations can be combined in a similar fashion; but in the case of the former the resulting relation is the same one over again; whereas in the case of the latter it becomes a new relation. The illustrations used have taken the same relation as holding between the first and second and between the second and third terms (whether these relations were transitive or intransitive). We might also consider relative products of different transitive relations or relative products of different intransitive relations, or, finally, relative products of transitive and intransitive relations. The operation in these last three cases would follow the law given above for intransitive relations. It may therefore be regarded as the general formula, the law of transitive relations when repeatedly occurring being a special development for them alone.

The classification of relations as symmetrical or asymmetrical distinguishes between reversible and irreversible relations. But

even more important is the relation which is discovered to hold between the two. The process of description in general expresses itself chiefly in asymmetrical relations. The work of science on the other hand is concerned chiefly with equations. The older logic dealt almost exclusively with the former. Consequently this left an apparent hiatus between the processes with which logic and those with which science is concerned. For equality is a symmetrical relation.

Now the point of interest here is that symmetrical relations are resolvable into asymmetrical. Thus if $A = B$, then every $A$ is a $B$, and every $B$ is an $A$. But the relation expressed by 'is a' is an asymmetrical relation. Thus a symmetrical relation is equivalent to and replaceable by a pair of asymmetrical relations. This affords us a method of passing from symmetrical to asymmetrical relations at will; and under the proper conditions from the asymmetrical to the symmetrical. It can always be made in the former direction; but in the latter, only when the relation is known to hold in either direction. Thus if it is somehow determined that every $A$ is a $B$, it must first be determined that every $B$ is an $A$ before we can say that $A = B$.

By means of this connection between the two types of relation the logic of asymmetricals can be shown to apply to symmetricals. And we know at least the conditions under which the transition can be made from the asymmetrical to the symmetrical relation. This shows the relative positions of the traditional logic and scientific formulas to each other. The laws of the asymmetrical relations hold good in both fields; whereas the laws of the symmetricals do not. The appreciation of the connection between the two effects the desired union of the processes of the traditional logic with those of scientific procedure. Thus we now have a logic of both asymmetrical and symmetrical relations,—an achievement of no mean significance to the student of 'thinking' in general.

Another important feature of the new logic is the full acceptance of a law which was suggested by Jevons but never widely adopted. It is the law which Jevons expressed under the two forms of inference—"by added determinants" and "by complex

conception." The law of these two forms was not generally accepted because of the difficulty of avoiding ambiguities in using it. Thus we cannot say that if a fly is an animal a large fly is a large animal. But the difficulty here lies not in the incorrectness of the mode of procedure but in the ambiguity of the term 'large.' Being a relative term it changes its meaning as it passes from association with 'fly' to association with 'animal.' However, the difficulty is no greater in this instance than it is in logic in general. Ambiguities always vitiate results. So here, if we avoid ambiguities the result of the operation is acceptable. There is no difficulty, for example, with the inference: if a fly is an animal then an obnoxious fly is an obnoxious animal. The restricting adjective does not change in meaning with the change of substantive. Or, we may say that if a fly is an animal then the head of a fly is the head of an animal. We may even show the law in a still more complex form: a fly is an animal; a head is a part; therefore a head of a fly is a part of an animal.

This mode of reasoning is not uncommon in general discourse. And in scientific and mathematical work its validity must constantly be assumed. Thus when we reason that if a certain amount of fuel will yield a definite amount of heat, then twice this amount of fuel will under the same conditions yield twice as much heat, we are applying the above law. And when in mathematics we say that $A = B$, and $C = D$, therefore $AC = BD$, we are again applying it. To be sure, in both of these illustrations we have used equations, that is—symmetrical relations. But these are only special instances of the law, showing how characteristic the equation is of science and mathematics. In the earlier instances given the relations were asymmetrical: and the equalities involve 'inequalities' in which the same law holds. The law in general may be expressed symbolically thus: $(A < B)(C < D) < (AC < BD)$; or, if $A$ has a certain relation to $B$, and $C$ has the same relation to $D$, then the logical product of $A$ and $C$ has this same relation to the logical product of $B$ and $D$.

This law holds of all relations, transitive or intransitive, symmetrical or asymmetrical. And it may also be regarded as a special case of a still more general law. Not only may there be

formed the product of the terms, but also the relative product of two different relations. Thus $(aR_1b)\ (cR_2d) < (acR_1{*}R_2bd)$. Thus: John is the father of Henry; Mary is the mother of William; therefore John and Mary are respectively the parents of Henry and William. Or even better still: John is father of Henry; possessions may be bequeathed by will to children's children; therefore, John's possessions may be bequeathed, by his will as father, to Henry's children. In the conclusion of this inference the term "possessions" is restricted by "John's," the term "children's children" by "Henry," and the relation of "being bequeathed by will" by the relation of "being the father of." The particular phrases used are determined by the exigencies of language.

Thus by a process of successive generalizations, proceeding from the relation of implication among propositions to all asymmetrical transitive relations; then from asymmetrical to all transitive relations; and finally from transitive to all relations whatsoever: we have broadened the scope of the subject to its utmost. We have included not only the law of the syllogism in its generalized form, but also other laws such as that of added determinants.

The movement here suggested runs through the work of Russell and Couturat as they proceed from the logic of propositions to that of classes, then to the logic of relations. Much of Russell's work consists in the development of an exact language along with logic. This is, however, aside from the logic itself. Logic need use no language other than the current one if it choose not to.

Finally, in one other respect the newer logic has developed a feature of significance. The application of the law of added determinants brings out the structure of the term in the conclusion. This leads to a more analytic treatment of the term. In the older logic the term, however complex, was taken as a unit. The operation of the syllogism did not make it necessary to consider the inner structure of the term, so long as it was univocal and in the proper case distributed. But the application of certain of the newly recognized laws, such as Boole's law for the

development of a term, makes it necessary that we take the inner structure into account. Thus when we consider two terms, $A$ and $B$, with reference to each other we must consider the $A$'s that are $B$'s, the $A$'s that are not $B$'s, and the $B$'s that are not $A$'s. Symbolically expressed: $A + B = AB + AB' + A'B$. The detailed study of this structure is necessary for certain phases of the logic of mathematics.

To sum up, without going further into detail: the advance of the newer over the older view of logic consists in the generalization of the field of logic, a generalization easily effected when it is taken as the science of relations; the recognition of certain forms of operation not included in the earlier treatment; and a consideration of the inner structure of the term.

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## THE MIND AND ITS DISCIPLINE.

THE question of the true function and proper content of a general training, or of liberal culture, has always interested students of the theory of education. It has been commonly regarded as a question for all thinking persons rather than as a problem for a specialist. In general, a discipline of a formal character was assumed to be possible and important; but there were various opinions as to whether all were fitted to receive it and what directions it should take. Recently, however, there has come to be a different attitude toward the matter. According to those now claiming to be experts, one is no longer entitled to an opinion on the subject merely by the possession of good sense, culture, and interest in teaching; apparently, these qualifications may be lacking; but one must be informed of a special literature, and expert in a special method. In a word, the psychologists claim to have taken over and settled the question of formal discipline. But having approached the subject from a point of view quite their own, they have ended by changing radically the whole nature of the inquiry. Formerly, man was treated as a whole, and the question was asked: In what universal relations does a man stand in regard to which he should become critical and intelligent? or, What are the peculiarly human qualities, and how can they be enhanced? or, Is knowledge power, and in what sense is it power? But the psychologist does not treat man as a whole nor does he treat human nature in its more concrete aspects and relationships. He investigates the comparatively external details of human life and the interrelations of specific acts. He asks such questions as: How does practice in discriminating shades of red affect the ability to discriminate shades of blue? or, Does daily practice in memorizing sets of words result in the ability to memorize another similar set in less time? or, How does practice on the typewriter affect the skill of the player on the piano? It is always, How does the

performance of some one specific act affect the speed, ease and general efficiency with which a similar specific act is performed.

This change in the type of inquiry has not been accidental. The recent questions do not represent an evolution of the older ones. We have not now merely come to the practical applications of what was formerly at the stage of general principle. While the psychologists have been experimenting they have at the same time been presupposing a theory of the mind and its training. They are convinced that the older type of question is too vague to be significant, and that it is meaningless to speak of universal relations or human qualities or powers in the strict sense of these terms. The mental functions with which the psychologist deals are the products of an interaction with a specific content; mental forms and faculties which are generally or universally applicable seem to him pure fictions.

The purpose of this paper is to compare the position of these writers on education who deny the reality of any general mental powers or a discipline based on them with another point of view which, without returning to the standpoint of 'faculties', maintains the unity of mind and the reality of its universal aspects. The opinion we wish to examine and oppose is summed up in Professor E. C. Moore's statement: "Psychologists, with one accord, deny the existence of any sort of power, force, or faculty which can be trained or exercised as a whole. Individual acts, thoughts and feelings are absolutely all that the teacher can consider in his work."[1] Statements to this effect are too numerous and familiar to need citation. Such characterizations as 'He is a man of ability,' or 'of fine feeling,' or 'of great force,' are assumed to be meaningless. Even more specific descriptions such as 'He is fond of history,' or 'a shrewd observer,' or 'a lover of the beautiful,' are condemned as loose and misrepresentative of the facts because "there is no particular line in which [these tendencies] are said to be manifested." "He is a good mechanic, but with what tools? She is a good musician, but on what instrument? She is a good painter, but with what, water color, oil, or pastel?"[2]

[1] *Western Journal of Education*, May, 1903, p. 303.

[2] See C. J. C. Bennett, "Formal Discipline," Columbia University Dissertations, 1907–08, pp. 7, 8.

The point of all such statements is that the specific is the real, and the general is a more or less vague abstraction. As against this position, I shall maintain that the reality of general powers of mind cannot be denied, and that the transference of knowledge or power, far from being a "miracle" or "impossible"[1] is the only assumption upon which any education can rest.

In so far as the view of the psychologists is merely a protest against the faculty psychology of John Locke and his successors, it has a certain justification, although, of course, no special relevancy in regard to the philosophical theories of the present time. As is well known, Locke was influenced by the rationalistic logic of his time, in spite of the fact that he believed that all knowledge comes through sense-perception. With the rationalists, he assumed the separateness of the mind and its object, and treated the mind as a thing by itself. When writers on education say that the mind has no forms or faculties, they are protesting against such a static and abstract logic as Locke's, and they rightly insist that reality is not made up of two absolutely distinct parts, a mental part which is divided into faculties, and a material part or content. They are merely reminding us that the mind is not ready-made and complete, receiving contents as a tank receives water, and equally unaffected by the process of being filled.

But although the psychologists, in common with the philosophers, have rejected Locke's conception and partition of the mind, the former have unconsciously retained his 'plain, historical method.' This has led to results in the present instance analogous to those which followed in the eighteenth century. Hume made it clear that if we treat the mind as a mere receptacle for the impressions of sense, we are never able to report the experience of a self or active cause, but only of a succession of impressions and ideas. The method of observation and psychological introspection, of looking into the mind to see what is going on there, assumes the passivity of the mind, and never reveals activity or productivity. It reveals a train of pictures, images, and feelings; but the central ordering functions charac-

[1] See John Dewey, *Democracy and Education*, p. 78.

teristic of the mind are not discoverable through any such means. The psychologists who deny the existence of general forms of the mind have proceeded much in the manner of Hume. As Hume showed that there was no psychological fact which could be called a 'self' or productive cause, so they reiterate the evident truth that their own psychological methods yield no genuine universals. They do not, however, perceive that their results in this respect are relative to their method, but unwittingly make a metaphysic of what is properly a special type of procedure. For them, what is given in sense-perception is not one kind of fact among others, a starting-point of an investigation or an element in an interpretation, but something ultimate and basal—'the living fact,' the 'concrete thing,' 'the fulness of the truth,'—and a more general aspect of mind is an 'abstract,' an 'abridgment of life,' and an 'absolute loss and casting out of real matter.'[1] Since they find given in sense-perception only particular instances of imagining, or thinking, or willing, *the* imagination, *the* power of thought, or *the* will are for them not real at all, but mere names. We can no longer speak briefly of the possession of a good or bad memory, as if there were such a function that could be referred to in its wholeness, for we are told that we possess a different memory for each particular thing that we remember. These general powers are indeed mentioned by psychologists, but guardedly and with immediate explanation of their merely nominal mode of existence. Thus while Professor Dewey insists that the work of the schools should contribute to the development of such general qualities as efficiency, sociability, æsthetic taste, trained intellectual method, and conscientiousness, he interprets such things as "abstract terms which sum up a multitude of particulars," and warns us that we must not "subordinate to an abstraction the concrete facts from which the abstraction is derived."[2]

Now, although the 'plain historical method' as used both by Locke and recent students of education is supposed to apply to the series of psychical processes as well as to the succession of

[1] See W. James, "The Sentiment of Rationality," in *The Will to Believe and Other Essays*, pp. 67, 69.

[2] *Democracy and Education*, pp. 285, 286.

physical events, it actually gets applied much more to body than to mind. It is a significant fact that a conspicuous share of the experiments which have been conducted in psychological laboratories with the object of settling the question about the general aspects of mind and whether and to what extent training is transferable, have treated man practically as if he were a purely physical being. The essential quality of mind seems to evade the mere observer. Investigations of manual dexterity in sleight-of-hand performers and in ordinary college students, of the ability to discriminate with the senses such things as pitch, shades of a color, relation of stimuli to each other on the skin, and sizes of areas of cardboard, tests of facility with the typewriter and in sorting cards bulk very largely in the literature of the subject. There are many discussions of the training of the memory; but what is taken into account is the 'brute memory,' that is to say, physical retentiveness which depends chiefly upon the condition of the cortical cells, and not the memory which is the same as orderly thinking. While 'cross-education' (which is, of course, purely physical) is distinguished from transfer of mental training, experiments in the former are usually cited in conjunction with those in the latter, and are thought to have some bearing on the issue.

Thus, although students of the psychology of education protest their belief in the value of culture, ideals, and general methods and qualities, they rarely illustrate their statements by examples taken unambiguously from the realm of mind. When they become concrete they talk of physical instincts and tendencies. For example, Professor Dewey follows up his assertion that "the supposed original faculties of observation, recollection, willing, thinking, etc., are purely mythological," not as one would expect by the citation of concrete instances of observing, recollecting, willing, thinking, but thus: "There are, indeed, a great number of original native tendencies, instinctive modes of action, based on the original connection of neurones in the central nervous system. There are impulsive tendencies of the eyes to follow and fixate light; of the neck muscles to turn toward light and sound; of the hands to reach and grasp; and turn and twist and thump; of the

vocal apparatus to make sounds; of the mouth to spew out unpleasant substances; to gag and to curl the lip; and so on in almost indefinite number."[1] I find it stated by another writer that the persistent element of truth in the doctrine of formal discipline is the insistence on the value of general concepts of method and clearly grasped ideals. This is immediately translated into the statement that acts should be relegated as rapidly as possible to the supervision of the 'lower centers' so that the 'upper centers' may be free to manage novel situations.[2] By another writer general connections are said to depend on 'identical elements'; and the explanation is immediately given: "By identical elements are meant mental processes which have the same cell action in the brain as their physical correlate."[3] I do not mean to say that there is not a constant reference to mental and spiritual things and even an insistence on their reality. I do mean that after being recognized such things are almost invariably construed in terms of physical things, as if, after all, the physical were the only realm that the psychologist clearly understood or was concerned with; as if the mind were practically an ornamental addition to the nervous system; as if the one type of human behavior were the arc that begins in sensation and ends in action.

This emphasis on the physical side of a human being is closely connected with the predominance of the influence of biology in psychology at the present time. The former affiliation with philosophy is repudiated because the psychologists feel that philosophy tends to insinuate into their science metaphysical considerations which are irrelevant to a naturalistic study of mind. They are likely to admit more or less for courtesy's sake, and not intending it too seriously, that there are other "higher and more spiritual" ways of regarding mind, valid surely when properly understood.[4] But these hints are rarely developed; we gather from the length and breadth of their discussions that they believe the behavior of the psycho-physical

[1] *Op. cit.*, p. 73.

[2] John Adams, *The Evolution of Educational Theory*, p. 223.

[3] Ed. Thorndike, *Educational Psychology*, p. 80.

[4] See, for example, J. R. Angell, *Psychology*, p. 7.

organism, in the sense of a succession of natural phenomena, is all the 'mind' a scientist recognizes. Now anyone would agree that it is worth while to study the relation of the organism to developing animal life and to view the nervous system and instincts genetically. This is one way of putting a human being in his setting and making our understanding of him more complete. But, as every one knows, there are other ways of seeing man in relation to a whole of which he is part. Besides being a member of an animal kingdom, he is a member of another group or kingdom, the group of beings who write poetry and who explain themselves to their own intelligences. In a word, man is *the* rational, political, and (in the full sense of the word) disciplinable animal. In order to understand the physical aspect of man it is necessary to examine instincts, and habits, and body in general; to understand his mental side it is necessary to grasp from within the theoretical and moral and imaginative 'faculties.' If animals have no generalizing capacity, man in his aspect of animal has none. He has his definite tendencies for getting food and bearing offspring, and he can be trained to do tricks with facility as mice and monkeys can. Because he wants food, he will so adjust himself to his environment that he can get it, and he will achieve a certain cleverness in manipulating his material surroundings. This is skill, facility, expertness; but it does not touch the manner of operation of the reason or imagination. On the whole the assimilation of psychology to biology seems to result in the loss of the genuine quality and unity of the mind.

A natural history of the mind, then, not only fails to account for the universal and productive aspects of the mental life, but tends to leave mind out of the story altogether, and to become an account of mere bodily processes. A method which looks at human life from without, and does not attempt to penetrate or interpret it, yields only a succession of particular facts (or, as the pragmatic students of education say, 'specific,' 'individual,' or 'teleological' processes); and the general functions of mind fall outside of reality in some realm of shades.

How then is that which appears to be 'general' to the ordinary person explained by those who have *a priori* excluded the possi-

bility of any genuine universals? Connections of various sorts are matters of everyday experience, and common sense forbids the absolute disregard of them.[1] An activity is general, says Professor Dewey, when it is "broad" and "flexible"; when there is "a constant redistribution of the focus of action."[2] Now since Professor Dewey holds to a metaphysical nominalism, however refined it may be in type, he has no right to *assume* a general activity; and just as Hume always asked for the impression from which any idea was derived, Mr. Dewey should here be called upon to demonstrate the native specific tendency to act with breadth and flexibility from which his general activity comes. If the reply is that this tendency to coördinate is simply the characteristic power of the mind, then a kind of reality hitherto unacknowledged, viz., a universal, is admitted, and a method adequate to such a type of reality is required. At this point the theory of many opponents of formal discipline becomes vague and difficult to follow.

There has been, however, one attempt to explain the general connections upon which formal discipline is based, which has superficially at least the advantage of clearness, and which has had a distinct vogue. This is the doctrine of 'the common element' and was given its classical form by Professor Thorndike. "A change in one function alters any other only in so far as the two functions have as factors identical elements. The change in the function is in amount due to the change in the elements common to it, and to the first."[3] A function, then, although specific in character, is not limited according to this theory to one time and place, but may attach itself to many times and places provided that a bit of the content always remains the same. The same thing then and now, the repetition of a part of the situation, the overlapping of contents, is the fact which supports the possibility of the transference of power and knowledge. The stepping stones upon which man rises to higher things are, oddly enough,

[1] For a humorous statement of what follows from the absolute denial of general functions, see, "Is Mental Training a Myth?," by A. Meiklejohn, *Ed. Rev.*, Feb., 1909, p. 130.

[2] *Democracy and Education*, p. 78.

[3] *Ed. Psy.*, p. 80.

always the same stepping stone put in different places! Now in examining this theory, it is interesting to note that explanation of connection by means of an abstracted identical element has been attempted in a number of different fields, and having been found inadequate—if strictly taken, even self-destructive—has been transcended.[1] It is surprising therefore to find this antiquated logic still operative in the consciously modern science of educational psychology. It illustrates again how quickly the plain historical method, when applied to mind, lapses into an imaging of physical processes. A general connection is said to be constituted by the same element embedded in different things. This element is, of course, really envisaged as a quasi-material ingredient; for only what is physical or spatial can be divided into parts that lie outside of each other. Human situations are not made up of elements in such a way that the ingredients may be treated as separable essences. They are made up of elements only in the sense that they contain aspects which may be intellectualy distinguished with reference to a whole. Nor can it be said that the objection just indicated is merely verbal, and that by 'element' was intended all along a part taken in the light of a whole. It is not verbal for the reason that it is impossible to take an element out of its setting and find it identical with an element in another setting.[2] The whole suggestion contained in the phrase 'identical element' as applied to mind is quite misleading; ideas cannot be transferred like bricks from one situation to another.

Thus far we have been following the consequences of employing the plain historical method as a point of view for considering the nature of mind and its discipline, and we have found

[1] See F. H. Bradley, *Logic*, Book II, Part II, Chapters 1 and 2; B. Bosanquet, "The Philosophical Importance of a True Theory of Identity," *Essays and Addresses*.

[2] It is true, of course, that for practical purposes, it is legitimate to speak of a connection based on the experience of likeness in things. This is the method of the mind at its simplest and most unreflective stage. Thus Plato describes the rudiments of the philosophical nature as the pleasant feeling of familiarity or recognition, akin to the friendliness of a dog for the people it knows. This mere sensing of sameness is an experience not yet understood, but is part and beginning of the process of interpretation.

that the result is the disappearance of both mind and discipline in any true sense. If we are not resigned to this sceptical conclusion, we must employ another method. This method must be analogous to the critical method employed by Kant: that is, discipline and education must at the outset be assumed to be genuinely and indisputably real, and the inquiry must be as to the nature of the mind presupposed by such realities. Only when we take the facts as we find them, are we led on to the notion of the *original spontaneity* and *general connectedness* of consciousness. It may at first sight seem strange that the idea of spontaneity or activity is insisted upon as a necessary presupposition of the fact of discipline. This is because discipline is often interpreted in the mediæval sense of pure passivity or submission, something we undergo or bear, something done to us, the repression of our bad impulses and the reduction of our wayward behavior and thinking to law and order. It is forgotten that the mind is something living, and that only in so far as it can actively respond to influences, is it capable of being affected or disciplined. A mind is never the mere clay of the potter; a minimum of original attitude pertains to the mind of even the most plastic. Or, to change the figure and recall Locke once more, the mind is no more a blank sheet of paper when it is being trained or disciplined than when it is originating plans or directing the course of action. "Discipline," says General Foch, "involves a mental activity, an activity of reflection; it is not a matter of immobility. . . . Discipline in a commander does not mean merely the execution of orders within convenient, just, rational, or even possible limits. It means a frank entry into the thoughts and intentions of whoever is in supreme command and the adoption of every means to satisfy them. Discipline does not mean a silent acquiescence that limits itself to whatever can be undertaken without compromising one's self; it is not the art of avoiding responsibilities. It is the art of acting in the spirit of a given order, and calls us to that end to find in our intelligence a means of executing the order, and in our character the energy to take the necessary risks."[1] This statement of the meaning of

[1] Quoted in *The New York Times*, March 31, 1918.

discipline is the more noteworthy in that it was written with reference to military discipline. If discipline ever implies blind submission, it is supposed to do so in the army. It is striking, therefore, to find General Foch placing his whole emphasis upon the mental activity implied in the conception.

What then is the mind which discipline thus interpreted presupposes? It is a universal or general function, and such a function cannot be defined at all, if definition is assumed to give spatial, temporal, and causal relations, and to set the thing to be defined off from other objects in the same class. The mind is only a reality for those who appreciate the life which animates a multiplicity of existences, but which cannot, like an existence, be bounded and classified and put beside other things to exhibit analogous points and qualities. Categories of matter—essence, substance, or particular object—cannot be applied to it, for it is none of these things, but life or spirit. It is nothing apart from that natural world which supplements it and which it uses as a mirror for discovering its own outlines; nor is it anything apart from society or the state in which it finds its law or pattern. Speaking in general terms, it is the power of uniting into a single whole a variety of particular manifestations of a single principle. A concrete demonstration of its nature would involve a demonstration of the many types of connection the human mind has worked out. The most comprehensive of the products of the human intelligence are what exhibit most clearly the form of the human mind as a whole. The body of the sciences, epic poems, institutions, such as the church or the courts, civilizations such as the Greek or Roman, are comprehensive products which exhibit the nature of the mind as a whole.

We may give to the unity of the mind different names according as it produces systems or works of art or institutions of a special type. As it expresses itself in poetry or painting or beautiful deportment we are accustomed to refer to it as imagination or taste; by which we mean that images from the sensuous world are there largely utilized in creating a spiritual whole. We are more likely to speak of the mind when employed in scientific research as 'the faculty of observation and analysis.'

The mind as predominantly volitional embodies itself in institutions. But the point is that the mind as a whole is more real than any particular case of its functioning, and it is what makes possible any kind or example of construction or connection in the world.

The practical corollary to this theory of the mind and discipline for education is that the proper discipline of a school consists in the cultivation of the characteristic aspects, forms, or powers of the mind. The intelligent teacher will search for those products of mind which bear the stamp of mind in general most strongly and feed the young mind upon them. He will furnish it with living systems of ideas which can draw and assimilate isolated or novel ideas to themselves, as the body absorbs nutriment and turns it into living matter. One such system or product is the Greek conception of life. Those who interpret schooling not as discipline, but as a mere anticipatory duplication of the various particular activities of an adult, contend that Greek culture is largely irrelevent to modern Americans. But this is a short-sighted view, based upon the interpretation of mind which has been found untenable. The Greek point of view has persisted just because of its universality and essential relevance to all phases of human life; but it would be an absurdity to demand that this relevancy should be stated in terms of 'identical elements' such as anticipations of modern Socialism of an extreme type in Plato's Republic. Pleasing or curious analogies such as suggest the platitude that human nature is always the same, are but trivial instances of the vitality of the Greek genius. That very difference in point of view for which it is sometimes rejected is a greater argument for its disciplinary value than isolated identities. For while we seek 'life in miniature' in the great documents of Christianity such as the New Testament and Paradise Lost, we can only understand life largely and truly if we examine it in forms quite different from our own. The chief value, however, of the study of Greek, is that in the achievements of Greece the human mind sees its greatest possibilities of perfection as it were in a mirror and is stimulated or put in

training to seek to attain that best. Greek culture acts as a standard or living instrument in the mind, and will absorb or reject intellectual material, and if it absorb it will turn it into living matter like itself, which in its turn may function in the discriminating process of intellectual development. This absorbed life is not an exclusive life; it can enter into larger lives as the lesser beast is food for the greater. Thus there will grow up a human being with his ideas and images regarding all things human; not the expert, for the expert is only a piece of a man.

Formal discipline in the sense of fashioning the mind by the standard of what mind characteristically does, should begin with the beginnings of education. It is essential to furnish the mind with the best pasturage, and it may be maintained with Plato that this is found in music—often in the tales and legends of gods, heroes, and other mythical creatures. Literature nourishes the mind because it illustrates concretely that to which human minds can attain. It is evident that this method of disciplining the imagination through the medium of art can be understood only by those who appreciate the imagination as an aspect of the mind as a whole, and art as a typical product of that faculty. It is not surprising, therefore, to find Professor Dewey speaking of the "exaggerated estimate" which has been placed on "fairy tales, myths, fanciful symbols, verse, and something labeled 'Fine Art,' as agencies for developing imagination and appreciation."[1] The mind, he tells us, is wandering and wayward if cut loose from the ordinary activities of life, and allowed to rest in æsthetic wholes. Now it is true, of course, that a mental exercise can never be disciplinary if it is, in every sense, cut loose from life. But pragmatic writers beg the question in assuming that life is constituted as they interpret it,—through a succession of specific activities. They insist upon the development of the imagination, but they proceed upon a fatally constricted view of the imagination, and an equally inadequate view of the function of art. According to them, an act of imagination is unprofitable unless it assists in the organization of the environment and in our perception of the probable consequences of our acts. They explain in vague phrases,

[1] *Democracy and Education*, p. 276.

which are plausible just because of their vagueness, that through the imagination narrow activities are "expanded and enriched." In order to be understood these phrases must be set in the context of the explicit pragmatic theory of mind and reality. Then it is seen that the expansion and enrichment brought about through the play of the imagination is of the same matter-of-fact type as the expansion and enrichment which is due to an accurate understanding of a manual activity or of a laboratory exercise. The imagination, for Professor Dewey, is not only "*as much* a normal and integral part of human activity as is muscular movement,"[1] but in the long run as external and mechanical.

The true sense in which literature is a discipline for children is in that it supplies a standard and content for their world. The child brings into an inclusive comparison the world of everyday which he is coming to know through his eyes and ears, and the world constructed for him in literature, which transcends his own. This world is always being criticized by the greater felicities of the other one. Is not the child whose faculty of imagination has thus been set in motion always slaying the dragon, rescuing the maiden, and hanging the traitor? Think of the function of Robin Hood, and the knights of King Arthur's Round Table. They were fine fellows, no doubt, but had a work to do, the work of righting wrongs. And Corbett laments the departure of fairies for much the same reason that moved Wordsworth to call for the return of Milton:

> "O how the commonwealth doth need
> Such justices as you."

And it will be remembered what direction the kings who peopled Ruskin's childish world gave to his mind. "Both by Homer and Scott, I was taught strange ideas about kings, which I find for the present much obsolete; for, I perceived that both the author of the Iliad and the author of Waverley made their kings, or king-loving persons, do harder work than anybody else. Tydides and Idomeneus always killed twenty Trojans to other people's one, and Redgauntlet speared more salmon than any of the

[1] *Op. cit.*, p. 277. Italics mine.

Solway fishermen, and—which was particularly a subject of admiration to me—I observed that they not only did more, but in proportion to their doings, *got* less than other people—nay, that the best of them were even ready to govern for nothing! and let the followers divide any quantity of spoil or profit."[1]

These myths and legends of heroes are by no means, as some popular writers on education suppose, foolish and irrelevant to the life of a child. But their relevance is 'general' and not particular. They furnish the mind with the pattern of a better society than that which is actually about us. The question is whether it is a better and more concrete exercise for the human mind to get by heart the conception and image of a good world, with all the complexities that there must be in a world, or for it to dissipate itself into the senses and instincts which then may be trained separately. If the mind is most truly characterized not by the enumeration of its particular tendencies but by the assertion of its unity and general forms or aspects, then a discipline which is as comprehensive as its unity is indispensable.

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[1] *Præterita*, I, p. 4.

# SUMMARIES OF ARTICLES.

[ABBREVIATIONS.—*Am. J. Ps.* = *The American Journal of Psychology; Ar. de Ps.* = *Archives de Psychologie; Ar. f. G. Ph.* = *Archiv für Geschichte der Philosophie; Ar. f. sys. Ph.* = *Archiv für systematische Philosophie; Br. J. Ps.* = *The British Journal of Psychology; Int. J. E.* = *International Journal of Ethics; J. of Ph., Psy., and Sci. Meth.* = *The Journal of Philosophy, Psychology, and Scientific Methods; J. de Psych.* = *Journal de Psychologie; Psych. Bul.* = *Psychological Bulletin; Psych. Rev.* = *Psychological Review; Rev. de Mèt.* = *Revue de Métaphysique et de Morale; Rev. Nèo-Sc.* = *Revue Nèo-Scolastique; Rev. Ph.* = *Revue Philosophique; Rev. de Ph.* = *Revue de Philosophie; R. d. Fil.* = *Rivista di Filosofia; V. f. w. Ph.* = *Vierteljahrsschrift für wissenschaftliche Philosophie; Z. f. Ph. u. ph. Kr.* = *Zeitschrift für Philosophie und philosophische Kritik; Z. f. Psych.* = *Zeitschrift für Psychologie und Physiologie der Sinnesorgane, I. Abtl. Zeitschrift für Psychologie.* —Other titles are self-explanatory.]

*Psychologie du langage.* H. DELACROIX. Rev. Ph., XLIII, 1, pp. 1–27.

Recent studies in the science of language have shown the necessity for a thorough psychological investigation of the subject. I. *Nature and convention.*—Language which directly expresses the emotions is sometimes called natural language. It depends upon: spontaneous external representation of the desires and feelings; ability to represent by signs the states of the individual mind; sounds out of which words are formed; and movements —which may become gestures—accompanying discourse. Gestures show us much more clearly than words the passage from natural language to conventional language. Natural gestures are of three types: those which indicate an object, those which are imitative, and those which are abbreviations of more complex movements. They change over into conventional signs when they cease to express what they were originally meant to express. This same metamorphosis of natural sounds into conventional signs is seen in the use of words, and this is the problem of the origin of language. The problem depends for its solution upon the answer to the two following questions: How does a natural expression change over into a symbol? Out of what original sounds does man produce language? The first of these questions is the problem of human intelligence, of the formation of general ideas, and it is answered by psychology. The second problem is insoluble at the present stage of science. II. *The laws of phonetics.*—We know that for the most part the evolution of language follows mechanical laws. These mechanical relations have been expressed in two groups of phonetic laws: the first deal with the process of articulation and the consequences of the modifications which the organs of speech go through; the second concern themselves with phonetic modifications which depend on the interaction of the elements in words and phrases. Examples of the first group are: the theory that phonetic

modifications depend on an æsthetic motive, euphony; and the theory that they are really grammatical and logical in nature. Examples of the second group are the laws of assimilation and the like. These laws are intended to show how in the course of development, meaning gets separated from its sign. Other laws are sometimes cited, in the effort to show that there is a logic immanent in language itself, which sets an ideal which language always approximates. III. *The development of language in the individual.*—Three periods can be distinguished in the development of the child: a period in which he relies on crying as the only form of expression; a period of articulate sounds, devoid of meaning; and the appearance of real language. Two principles are involved in this development: the tendency to express the subjective feelings, and the tendency to imitate others. The last of these tendencies shows the social nature of the origin of language in the individual. Rousselot claims that when a child once gets a hold on language, his *phonetique* is fixed once for all, but this does not seem probable, because there is always a discrepancy between the linguistic consciousness and objective language. IV. *The forms of language as an expression of thought and the formulation of the judgment.*—The judgment is formulated by means of a phrase, and to the elements of the judgment correspond the elements of the phrase. Since the word does not exist alone, the phonetic word does not coincide with the word of syntax. For psychology a phrase is a verbal unity which expresses a thought; language would have no meaning if it were simply a mosaic of words. Now in studying the functions of a word in a phrase, we see that the grammatical categories correspond to those of psychology: the substantive is object, the adjective is quality, the verb is action or state, the particle is relation. The substantive has a peculiar value: it is the basis of the phrase, and has an especial development in all languages. Now the judgment has for its verbal expression, the phrase; it is a phonetic unity, expressing logical and emotional relations. Three types of such phrases can be distinguished: exclamation, assertion, and interrogation. Meillet has shown that the constituent elements out of which grammatical forms are made are two: analogy, which consists in making one form on the model of another; the 'grammaticalization' of words, the passage of a word automatically into an element of grammar. V. *Changes of signification. Special tongues.*—An important psychological law dominates all changes of signification. The concept consists in the analysis of complex representations. In the unity of apperception we grasp an accentuated character to which the word applies by way of designation, but at the same time it applies itself to the whole of which the word is a part, and designates the whole implicitly. The word then comes to have a complex and changing meaning, because the same word is used to designate different things in view of their common character. We give a word new meaning when we place in relief some accessory character of the object designated by the word. Thus the inadequacy of language to thought accounts for the changes in signification, and makes possible aberrations from the normal, found in special tongues.

F. W. A. Miller.

*The Relation Between Art and Science.* P. J. HUGHESDON. Mind, N. S., XXVII, 105, pp. 55–76.

Art and science are parallel and complementary; they provide parallel and complementary conceptions of reality. The freely conceiving mind is active in both; but the *organon* of art is intuition or imagination, through which the relations of the real world are judged according to fitness and harmony; the *organon* of science is the reason, which deals with reality abstractly and in terms of ground and reason. Further, art and science agree in spirit, but differ in form; for truth, or the nature of reality, prized for its own sake, is the essential thing in both. Art, however, consists in individualized representation; in it, actuality is re-synthesized and intensified. Science, on the other hand, is generalized explanation; in it actuality is analyzed and clarified. The author then points out the correspondence between art and the various sciences, attempting to correlate with each science a particular kind of artistic or æsthetic experience. The result is a classification of art parallel to that of the sciences. But the correspondence turns out to be defective over areas concerned chiefly with relative truth of the lower grades of reality. Neither art nor science seems to have primarily or directly any relation to feeling and emotion. Both are concerned primarily with thought, and both secondarily with emotion. The truthful representation of reality is the essence of both; the emotional accompaniment, though psychologically necessary, is not essential.

JULIUS COHEN.

*Concerning the Nature of Philosophy.* D. W. PRALL. J. of Ph., Psy., and Sci. Meth., XV, 5, pp. 127–130.

The suggestion is offered that philosophy is simply science itself as distinguished from the particular sciences. This idea is presented with reference to the objection often raised against 'self-psychology' that the latter is a philosophical rather than a scientific inquiry. It appears that all scientific inquiry, when it proceeds carefully enough and criticizes its presuppositions, necessarily turns into philosophy. Philosophy is the concrete embodiment of science in general. In insisting on the central fact of the self, 'self-psychology' is philosophical just in that it is trying to be truly and fully scientific.

MARIE T. COLLINS.

*Philosophy and Edification.* BENJAMIN W. VAN RIPER. J. of Ph., Psy., and Sci. Meth., XIV, 20, pp. 550–553.

Philosophy, as formerly taught, was enveloped in a sacred and mysterious atmosphere. To-day there is in vogue a too dispassionate method of presenting the subject, for philosophy has a definite office of edification. This claim is substantiated by history, and by present practice, since ethics and metaphysics are correlated. A teacher cannot edify, however, by equivocation or exhortation, for he would thereby prejudice his pupils. Furthermore, a gloomy interpretation will not inspire, and noted pessimists show that such

an interpretation admits of escape. It is a momentous fact that one must adjust oneself to cosmical conditions, and success in such adjustment is edifying.

MARJORIE S. HARRIS.

*The Relation of Truth to Tests.* DENTON L. GEYER. J. of Ph., Psy., and Sci. Meth,, XIV, 23, pp. 626–633.

There are various theories as to the meaning and criteria of truth. Professor Dewey has identified truth with verification, and thus the definition of truth with one of the tests for it. For Mr. Bertrand Russell the meaning of truth is correspondence with fact, and its criteria are self-evidence and coherence. C. S. Peirce defined truth as the opinion fated to be ultimately agreed to by all who investigate, and he proposed scientific experiment as the criterion. It is well, however, not to limit ourselves to any one test, but to find a place for all the criteria: experiment, coherence, clearness of the idea, simplicity, absence of exceptions, inconceivability of negation. For progress toward truth as ultimate agreement, we must both render our statements more precise and improve our tests for their truth.

ERNEST BRIDGES.

*Concerning Alleged Immediate Knowledge of Mind.* JOHN DEWEY. J. of Ph., Psy., and Sci. Meth., XV, 2, pp. 29–35.

We are not immediately aware of the actual motives or emotions upon which we act. An emotion, first taken to be one of pure magnanimity, may later be found to be prompted by love of praise. Accepting the idea that motives are states of consciousness, how is error possible as to what they actually are? The nature of an emotion, such as generosity, can only be definitely asserted to be of such a quality, in the light of the objective conditions and consequences of its particular setting. We can only characterize the emotion in terms of stimuli and response and not in terms of the state of consciousness in itself. There is no more reason for supposing that personal events have a nature or meaning which is one with their happening, and hence open to immediate infallible inspection, than is the case with impersonal events. In each case the event only sets a problem to knowledge, namely, the discovery of its connections. It is quite compatible with the behavioristic standpoint that the observation and understanding of an immediate attitude is conscious. It is merely contrasted with the impulsive or routine behavior in that future things, not yet having happened, operate as part of the stimulus in a present response. And so the immediate can be understood only in relation to its cause and its consequences.

EDGAR DE LASKI.

*La conservation des images et les théories de la mémoire.* J. JEAN LARGUIER DES BANCELS. Ar. de Ps., XVI, 64, pp. 349–356.

Two theories are advanced to explain how memory is retained. One which we will call the 'doctrine of recurrence' maintains that memory preserves

itself in its entirety; the other, the 'doctrine of vestiges,' asserts that memory exists only in so far as it has left traces in the present. The Epicureans maintained the theory of recurrence, asserting that to remember is not to recall what no longer exists but to assemble (*recueillir*) that which has never ceased to be. This theory is most definitely upheld, among modern philosophers, by Bergson. Memory, for him, is a function of the mind, co-extensive with consciousness, registering and storing all the events of our daily life. The 'doctrine of vestiges' was held by Aristotle and taken up again, in more recent times, by Descartes and Malebranche. For Malebranche, our perceptions are correlative with the fibers of the brain, and memory is preserved by the nervous facilitation of particular brain fibers through the constant excitation of particular perceptions. This physiological interpretation of the 'doctrine of vestiges' is the one most current among contemporary psychologists such as Ribot. But with our present lack of knowledge of brain physiology, both the 'doctrine of recurrence' and the 'doctrine of vestiges' can be equally maintained. Psychology is justified in holding to either theory.

Edgar de Laski.

*The Presuppositions of a Behaviorist Psychology.* H. Heath Bawden. Psych. Rev., XXV, 3, pp. 171–190.

Just as we are slowly discarding the idea of vital force in biology, so we must give up soul or mind or consciousness or ego or self, as distinct from a certain kind of behavior, in psychology. Mind or consciousness is not something superadded to behavior; it is behavior of a certain sort. Like gravitation or evolution, mind is merely a generalization from certain facts, the statement of a type of relationship. The word mind is simply a class name standing for an observed uniformity of events; it signifies an assemblage of particular facts of adaptation and adjustment in behavior. The mental, with its retinue of ramifications into consciousness and attention, sensation and image, affective and cognitive modes, is but a name for behavior of that sort which demands something else than itself for its own completion. This new other-referring and other-demanding quality in an act, this indicative or demonstrative, this symbolizing, inducing, representative character is the distinctive mark of the mental. And psychology, from this point of view, is the science of the behavior of organisms in so far as they exhibit mentality. The author quotes Bode who asserts that "all experience is a kind of intelligence, a control of present behavior with reference to future adjustment. It is this relationship of present response to the response of the next moment that constitutes the distinctive trait of conscious behavior. Psychology, therefore, is properly a study of the conditions which determine the change or development of stimuli, such as memorizing lessons, solving problems and forming habits." Until quite recently introspection has been held to be the distinctive and unique method of psychology. But there is nothing which justifies this distinctive characterization of introspection; introspections to be valid and possess any value must be objectified and externalized. Consequently, the

method by which these observations were taken would differ in no essential way from the objective methods of the other sciences.

EDGAR DE LASKI.

*Advance Adaptation in Behavior.* S. BENT RUSSELL. Psych. Rev., XXIV, 6, pp. 413–425.

Animals having the most highly organized nervous systems are the best adapted to endure changes in the environment. Provision in advance for change in the environment may be termed purposive behavior or advance adaptation. Taking the precaution to provide oneself with an umbrella, when it looks like rain, is such a case of purposive behavior. But this is not a recognition of consciousness as a factor in the operations. Behavioristic principles rest on the theory that behavior is due to instincts and habits. In childhood one acquires numerous habits by executing certain movements, while in maturity one's behavior is largely governed by habits such as those of language and social conventions. New situations which the individual faces are controlled largely by instincts. In the educated man we find advance adaptation most highly developed. For it is noticeable that the degree of purpose develops correlatively with the accumulation of knowledge, *i. e.*, with the formation of associations. Children are trained to purposive behavior through language and mechanisms of habit. A child is made to tell what he is going to do and what good will come of it. So it is, that all purposive behavior can be explained as due to nerve mechanisms. If the formation of habit can be explained in physiological terms, advance adaptation can be accounted for in the same way. Mechanistic interpretation of purposive behavior or advance adaptation is therefore adequate to explain psychological phenomena.

EDGAR DE LASKI.

*Relevant and Irrelevant Speech Instincts and Habits.* P. F. SWINDLE. Psych. Rev., XXIV, 6, pp. 426–448.

The audible, vocal responses of certain birds and of the human being are instinctive and may become habitual; for a habit is really an instinct which occurs more frequently than originally. The frequency of occurrence of an instinct is necessarily increased if it is associated with and is regularly conditioned by at least one other response of the same individual. Relevant speech instincts and habits are those responses of the individual which serve as stimuli to call forth predictable responses in other individuals, and other speech instincts and habits, whose responses are at first irrelevant or unpredictable, can become relevant through training. The barbet, or the bearded bird, sings the letter *a*, as in art, approximately in the tempo of 0.2 sec., the largest complex of which contains not less than five hundred *a's*. This irrelevant speech instinct can become a relevant habit. By striking the glass of the bird's cage at the fourteenth and again at the thirty-fourth *a*, the habit of stopping the singing or of stuttering at those points can be induced. The

human being also stutters in a manner similar to the barbet but in such a very rapid tempo that for the hearing organism an apparently continuous tone results. Another irrelevant speech instinct is stammering, which differs from a stutter in being a distinct explosive compound rather than a single vowel. All conventionalized social means of vocal communication are simply habitualized stutters and stammers. When these elements of speech are conventionalized, they are ordinarily called letters, monosyllables, words, sentences and gestures. Undesirable combined series of speech compounds may be dissociated by presenting stimuli which will cause the patient to repeat the undesirable activity very rapidly until at least a large number of the stimuli cease to call it forth. This results not in an absolute, but only in a relative forgetting of the undesired response. It is suggested that the fact of relative forgetting of the superfluous response is due to a dissociation of certain organic structures involved; that this dissociation is in turn a result of a simplification or purification of the structures.

Edgar de Laski.

*The Struggle for Existence, and Mutual Aid.* J. Macleod. The Hibbert Journal, XVI, 2, pp. 206–222.

The phrase 'the struggle for existence' has received a too limited interpretation. The current representation of its meaning is one-sided, for its scientific implication is that each living thing must work for the preservation of self or offspring. Such activity may be a struggle merely against an inanimate foe. A plant in the desert, for example, uses means to defend itself against drought. One species grows ephemeral roots during a shower that it may, by means of them, suck in the water as speedily as possible. Indeed, there are countless examples of struggles for existence in which the foe is only inanimate nature and no living thing is injured. But even between living things there is often no hostility, for, in working for self preservation, one being often inadvertently aids another. Thus the bee aids the flower while getting its own sustenance. In fact, mutual aid is common in nature. The importance of mutual aid for human society becomes evident if we compare society to a living being. Social relations are observable in so simple a plant as the *ulothrix*, which grows in ponds and is the threadlike product of successive divisions of a germ cell into cells which are all alike except one, the root cell. This root cell attaches itself to a rock and thereby holds the whole system in place. This cell cannot, however, acquire its own nourishment, but is supplied therewith by the cells it supports. Not only is the *ulothrix* made up of single cells which aid each other, but each many-celled being is a unity made up of one-celled beings closely bound by mutual aid. In fact, without aid, a many-celled being would be impossible. Extending the analogy further, it becomes evident that the interests of a human society can best be furthered through mutual aid. We conclude, then, that science reveals the fact that the struggle for existence not only may not be injurious to other forms of animate life, but is often helpful. We may hope from science a further revelation of the ideal of humanity.

Marjorie S. Harris.

*Docility and Purposiveness.* RALPH BARTON PERRY. Psych. Rev., XXV, 1, pp. 1–20.

The process of learning may be interpreted in terms of purposive behavior without thereby implying the operation of any but mechanistic factors. In responding, the organism exhibits two propensities: a higher and a lower. The higher, or selective propensity, excites activity and determines its character and end; in a word, dominates the whole situation. The lower propensity is more specific, transitory and tentative. The selective propensity chooses from the tentative propensities that which is eligible, *i. e.*, that which will further the process over which it is dominant. In responding, then, the organism may be said to be acting purposively when its behavior is determined by a controlling propensity amplified by an eligible, or congruent propensity. A purposive act, so determined, must, however, be variable in three respects. First, the response must be variable and this variability of response increases with the ascent in the scale of animal life. Second, there is variability in respect to the feature of the environment to which the organism responds. Third, there is variability with respect to the consequences, for they are not always determined by the controlling propensity. Thus, purposiveness contains an element of variability. Not only can purpose and response be interpreted in mechanistic terms, but what is termed as conscious purpose we may construe as the releasing by a stimulus of a response which is, in part, the end of the endeavor. Furthermore, what appears as a cognitive response is merely the attentive 'set' which furthers the consummation of the purpose. Thus we find that a teleological vocabulary has meaning even in a behavioristic description of the process of learning. We have here suggested what may be also considered as a crude account of the higher purposive processes of man. In such processes, the ideas—that is, the stimuli which excite anticipation—are centrally aroused and the end attained may be only a situation creative of new expectations.

MARJORIE S. HARRIS.

*Structure.* FREDERICK J. E. WOODBRIDGE. J. of Ph., Psy., and Sci. Meth., XIV, 25, pp. 680–688.

Whatever may be the end or the cause of an operation, our curiosity is largely satisfied and our efficiency is much improved when we find out the structure to which the operation conforms. Structure is characteristic of operations universally. We never understand a thing so completely as when we understand its structure. Structure has for its principal attributes completeness and inertia.

ERNEST BRIDGES.

*The First Antinomy of Kant.* CHARLES W. COBB. J. of Ph., Psy., and Sci. Meth., XIV, 25, pp. 688–690.

Kant's first antinomy has for its thesis this: "The world has a beginning in time." In proving the thesis, he in the end assumes that the time series

has a first term, an hypothesis which he rejected at the outset of his proof. Consequently, the antinomy is unsound.

ERNEST BRIDGES.

*Sovereignty and Moral Obligation.* W. E. HOCKING. Int. J. E., XXVIII, 3, pp. 314–327.

This article is an attempt to investigate what it is in human relations that has given the concept of sovereignty a foothold. Certain historical conceptions of sovereignty—those foreshadowed by Aristotle, enunciated by Hobbes, and commonly, though erroneously, attributed to Hegel—are neither actual nor expressive of any working ideal. Certain considerations, *e. g.*, the fact that the state has moral duties and responsibilities, lead one to impute a real, over-individual personality to the state; but it is difficult to make this view convincing. A better theory of the state is based on psychological considerations, empirically valid. Men are held together in two general types of association: 'social groups,' in which the bond of union is common, but not vital, interest; and 'vital circuits.' In 'vital circuits' the bond is such that if any part of the connection is injured, the life of the whole is endangered. A political whole or state is such a circuit, because it is based on the deeper needs of human nature, and these needs, in the case of any given circuit, can only be satisfied by peculiar material conditions. Within such an entity there are certain facts which give meaning to the notion of sovereignty: the need for finality of decision, and the psychological priority of the political interest. This interest is the need for adjusting all special claims within the state to each other, and the political sovereign is the will that this attempt at coördination shall take place. Neither the justice of legality nor of equity applies without qualification to the state. The conscience of the world must learn to distinguish between those interests which states have in common, and those which are peculiar and not easily understood from without.

KATHERINE GILBERT.

*What is Formal Logic about?* ARTHUR MITCHEL. Mind, N. S., XXVI, 104, pp. 428–448.

I. *The presupposition common to intellectualistic tradition and to pragmatic criticism.*—The presupposition of the intellectualistic tradition is that the nature of thinking is determined by the logical interest. This presupposition is the basis of the pragmatic criticism as expressed in the impugnment of formal logic by Schiller, Mercier, and Sidgwick. The criticism is focused upon the intellectualistic bias for a certain syllogistic conception of thinking, and presupposes the logical interest in a broader theory of the nature of thought. II. *Two sources of difficulty in scientific abstraction.*—There is nothing surprising in the fact that logical method and material have not yet been accurately defined. The motives to cognition form an intricate and complex tangle, from which it is hard to extricate and keep straight any single thread. Moreover, it is obvious that one science conditions another, and this interde-

pendence makes it difficult to keep the intellectual interest in abstraction free from interest in more concrete concerns. III. *These difficulties are at the maximum in logic.*—In the first place, every datum of experience is a datum of logic, so that logic is as complex as experience itself. In the second place, logic is precisely the ultimately fundamental science. It is the science of sciences, as Aristotle said. The only defect of logic is that it is too illogical; it lacks rigor in application. IV. *The confusion of logical interests with others.*—Thought is the subject-matter of logic, to be sure, but only in so far as thought is meaning. Meaning is infested with a swarm of ambiguities, due to the intersection within it of a vast number of interesting factors. Meaning has its psychology, epistemology, rhetoric, and ontology. But logic can use its term, universal, and by means of it abstract from all these other concerns. V. *The logistic definition of universality.* Whatever is of logical significance in discussions of Induction in logical treatises pertains to the logistic definition of universality. Since causation is a relation of ground and consequence, the significance of 'principles of elimination' and the five 'causal methods' is that they form the material in which logic finds its category of universality. Freed from psychological and epistemological questions, the five causal methods reduce to two: that is not the cause of P which is (1) absent when P is present (*i. e.*, not indispensable), (2) present when P is absent (*i. e.*, not adequate). Neither of these conditions is sufficient to define a cause, but their logical product does so. Causality is thus a limit between two variables,—more than indispensable adequacy of physical conditioning, less than adequate indispensableness of physical consequenciality. Causality is not a genuine relation between physical things, although it has no meaning outside that sphere. By virtue of being an adequate physical condition, a meaning (thing or event) is a real cause; by virtue of being an indispensable physical consequence, a meaning is a real effect. Agreement eliminates inadequacy; difference eliminates indispensableness. Hence the two irreducible causal methods have for their ideal the approximation of 'causation' to 'causality,' practical and technical difficulties always preventing logical analysis from attaining perfect involvement with nature. The generic relation of determinate conditioning, implication, also has these two distinct terms. By virtue of being an adequate condition a meaning is universal; by virtue of being an indispensable consequence a meaning is particular. This relation of determinate implication defines universality in the two senses of universal-particular and particular-universal, respectively. VI. *The conditional priority of logic.*—If Schiller's charge that logic means nothing and Mercier's that it is a silly game of spoof are true, the same depreciatory remarks can be applied to all science, for the system of objective meaning in general, with which logic deals, conditions the objectivity of all sciences. This may be interpreted as a paradox, since logic would then condition itself, but it is a paradox of the same order as that of self-consciousness, and has the same rights. To hold with some idealists that self-consciousness itself conditions the object-matter of logic is to confuse logical conditioning with epistemological polarization. For

epistemology, subjective and objective find their meaning in each other; but logical conditioning is not thus reciprocal. VII. *The objectivity of logic.* —The logical system of *what is meant* has objectivity, whatever may be the condition of the logical system itself. This is implied in any epistemology whatever that is not skeptical. Anything which is not objective is simply meaningless: logic is the science of meanings, and therefore possesses objectivity by necessity. VIII. *The co-functions of meaning.*—Three cases of meaning are distinguishable: psychological meaning is mediation between conscious subject and his object; epistemological meaning is mediation between subjective and objective content; logical meaning is mediation between determinants of definition, or co-functionality between character and locus. Now character and locus determine each other: there is a relationship between them (a relationship which is qualitative and quantitative at the same time). This co-functionality between character and locus is the fundamental principle of logic, sometimes called the law of identity. When we distinguish between sameness (oneness of character) and identity (oneness of locus) the law of identity is no longer mere tautology. This inverse co-functionality can be demonstrated in that the connotative magnitude is not contained in the connotation of the meaning; but inversely. Thus the magnitude of meaning character is incommensurable with the magnitude of meaning locus, and thus they are different from trigonometrical co-functions. IX. *Definition and proposition.*—The presuppositions of species and differentia involve a limit, so that the ultimate case of definition falls apart into two antipodal surds: identity and dichotomy. Identity contradicts distinctness; dichotomy contradicts mediativeness. Genuine logical mediation is, on the side of locus, non-identical community; on the side of character, discriminate co-subsistence, and can therefore be exhausted in four *sui generis* types: in terms of locus; (1) community, (2) exclusion, (3) inclusion, (4) externality; in terms of character; (1) co-subsistence, (2) independence, (3) implication, (4) incompatibility. All types of mediation are, however, variables; *i. e.*, limits of variation are determinants in their respective definitions. Thus, analysis of determinate mediation results in two generic types: those relations to whose propositional formulation the logic of the schools has attached the symbols 'I' and 'O'; and those of the determinants of quantitative limits. Such analysis is the sole business and interest of the formal logician: he pays no attention to any patent method of investigation which this or that school of philosophy may advocate.

F. W. A. MILLER.

# NOTES.

Some of the personal friends and colleagues of Josiah Royce, who believe that his work and his character made a deep impression upon a wide circle of men and women, and that he became in fact the center of a large spiritual community, many of whose members were unknown to him, as he was unknown personally to them, feel that the reverence and affection which went out to him as a thinker and as a man should be embodied in some appropriate memorial of him at Harvard University, where he expressed himself in characteristic speech and writing for thirty years.

It is proposed, with this end in view, to create a fund of $20,000, to be known as the Josiah Royce Memorial Fund, the income of which shall go to Mrs. Royce during her lifetime, and thereafter to the Department of Philosophy of Harvard College, to be used in such ways as the department shall decide from year to year.

There are evident reasons why this appeal should not be delayed until the return of normal conditions, natural as such postponement might on some accounts appear to be. And further, the due honoring of our moral heroes, though a privilege under all circumstances, is especially a privilege and a duty in heroic times.

If you desire to subscribe, please send your check to Charles Francis Adams, Esq., Treasurer of Harvard College, 50 State Street, Boston.

CHARLES W. ELIOT,
CHARLES P. BOWDITCH, President, American Academy Arts and Sciences,
JOHN GRIER HIBBEN, President, Princeton University,
R. F. ALFRED HOERNLÉ, Chairman, Department of Philosophy and Psychology, Harvard University,
LAWRENCE J. HENDERSON, Secretary, The Royce Club,
JAMES J. PUTNAM, M.D.
E. E. SOUTHARD, M.D.
WILLIAM ERNEST HOCKING.

The Harvard University Press expects to publish in September a work by Professor Wilmon H. Sheldon, of Dartmouth College, entitled *Strife of Systems and Productive Duality*.

The Executive Committee of the American Philosophical Association announce that at the next meeting there will be a discussion of Mechanism and Vitalism, and that the leaders of the discussion will be Professors R. F. A. Hoernlé, of Harvard University, L. J. Henderson, of Harvard University, H. S. Jennings, of Johns Hopkins University, W. T. Marvin, of Rutgers College, and H. C. Warren, of Princeton University.

We give below a list of articles in current philosophical magazines:

MIND, N. S., XXVII, 106: *W. E. Johnson*, Analysis of Thinking (II); *Douglas Fawcett*, Some Observations Touching the Cosmic Imagining and "Reason"; *Harold P. Cooke*, On Certain Idealistic Arguments; *Beatrice Edgell*, The Implications of Recognition; *C. Delisle Burns*, The Idea of the State.

THE HIBBERT JOURNAL, XVI, 3: *Prince Eugène Troubetzkoy*, The Meaning of Life, and of the World, Revealed by the Cross; *Stopford A. Brooke*, Shelley's Interpretation of Christ and His Teaching; *G. K. Chesterton*, Stopford Brooke; *F. S. Marvin*, Ground for Hope; *Charles F. Thwing*, Prospects of Liberal Education after the War; *R. H. Dotterer*, The Doctrine of a Finite God in War-Time Thought; *Philip Magnus*, The Book of Jonah; *W. R. Lethaby*, What Shall We Call Beautiful?; *Israel Abrahams*, Palestine and Jewish Nationality; *Foster Watson*, Erasmus at Louvain; *E. F. Carritt*, Prayers in Time of War; *R. H. Coats*, Birmingham Mystics.

THE MONIST, XXVIII, 2: *Preserved Smith*, Christian Theophagy: An Historical Sketch. I. Præparatio Evangelica. II. Paul and his Symmystæ; *L. L. Pimenoff*, Mind, The Creator of Matter; *C. D. Broad*, Body and Mind; *Paul Carus*, In Reply to Dualistic Conceptions of Mind; *Theodore Schroeder*, A Psychological View of the Pragmatic Issue; *George Seibel*, Lucretius Returns. A Philosophical Poem.

THE AMERICAN JOURNAL OF THEOLOGY, XXII, 2: *Charles H. Cunningham*, The Ecclesiastical Influence in the Philippines (1565–1850); *Alfred E. Garvie*, Recent Progress of the Free Churches in England; *James Westfall Thompson*, Church and State in Mediæval Germany (II); *A. Clinton Watson*, The Primary Problem for an Empirical Theology; *Herbert L. Stewart*, James Anthony Froude and Anglo-Catholicism; *Frank Hugh Foster*, Some Theistic Implications of Bergson's Philosophy.

THE HARVARD THEOLOGICAL REVIEW, XI, 2: *George Herbert Palmer*, The Monologue of Browning; *R. F. A. Hoernlé*, Neo-Realism and Religion; *Frederic Palmer*, Angelus Silesius: A Seventeenth-Century Mystic.

THE INTERNATIONAL JOURNAL OF ETHICS, XXVIII, 3: *James H. Tufts*, Ethics and International Relations; *W. E. Hocking*, Sovereignty and Moral Obligation; *H. A. Overstreet*, Ethical Clarifications through the War; *W. K. Wright*, Ethical Aspects of Internationalism; *M. T. Selescovic*, The Soul of the Slav; *C. E. Ayres*, The New Era of Fruitfulness in Ethical Thinking; *C. Delisle Burns*, Productivity and Reconstruction; *Arthur K. Rogers*, A Method of Distributive Justice.

PSYCHOLOGICAL REVIEW, XXV, 2: *Robert M. Yerkes*, Psychology in Relation to the War; *Henry C. Link*, An Experiment in Employment Psychology; *H. B. Reed*, Associative Aids: I. Their Relation to Learning, Retention, and Other Associations; *Sven Froeberg*, Simultaneous versus Successive Association.

XXV, 3: *H. Heath Bawden*, The Presuppositions of a Behaviorist Psychology; *Knight Dunlap*, The Significance of Beauty; *Joseph Peterson*, The Functioning of Ideas in Social Groups; *Robert M. Ogden*, The Attributes of Sound; *G. W. Stewart* and *O. Hovda*, The Intensity Factor in Binaural Localization; An Extension of Weber's Law; *Rudolph Pintner*, The Mental Indices of Siblings.

The Journal of Philosophy, Psychology, and Scientific Methods, XV, 7: *B. H. Bode*, Why Do Philosophical Problems Persist?

XV, 8: *Albert G. A. Balz*, Dualism and Early Modern Philosophy.

XV, 9: *Albert G. A. Balz*, Dualism and Early Modern Philosophy (II); *Harry Cary*, Estimation of Centidiurnal Periods of Time: An Experimental Investigation of the Time Sense.

XV, 10: *John Dewey*, The Objects of Valuation; *Henry Rutgers Marshall*, Behavior; *C. J. Keyser*, Doctrinal Functions; *Evander Bradley McGilvary*, Error in Professor Holt's Realism.

XV, 11: *Woodbridge Riley*, Two Types of Transcendentalism in America; *A. A. Merrill*, Free Will; *Ray H. Dotterer*, The Definition of Infinity.

American Journal of Psychology, XXIX, 2: *Edna E. Cassel* and *K. M. Dallenbach*, The Effect of Auditory Distraction upon the Sensory Reaction; *G. Stanley Hall*, A Medium in the Bud; *Phyllis Blanchard*, A Psycho-Analytic Study of Auguste Comte; *M. Luckiesh*, On "Retiring" and "Advancing" Colors; *Edward Chace Tolman* and *Isabelle Johnson*, A Note on Association-Time and Feeling; *Max Schoen*, Prolonged Infancy—Its Causes and Its Significance; *Edna E. Cassel* and *K. M. Dallenbach*, An Objective Measure of Attributive Clearness; *Stephen C. Pepper*, What is Introspection?; *Christian A. Ruckmich*, A Bibliography of Rhythm; Minor Studies from the Laboratory of Cornell University. Communicated by *E. B. Titchener* and *E. G. Boring*. XL. *H. D. Williams*, On the Calculation of an Associative Limen. XLI. *Margaret Kincaid*, An Analysis of the Psychometric Function for the Two-Point Limen with Respect to the Paradoxical Error.

Revue Philosophique, XLIII, 3 and 4: *E. D'Eichthal*, Des rapports de la mémoire et de la métaphysique; *E. Rabaud*, Esquisse d'une théorie physiologique de l'hérédité; *L. Dauriac*, L'état d'esprit écossais dans la philosophie américaine du temps présent; *L. Enjalran*, Sur la signification de la correspondance birétinienne; *L. Dupuis*, Timidité et sympathie.

XL, 5 and 6: *M. Halbwachs*, La doctrine d'Émile Durkheim; *P. Dupont*, La notion scientifique de l'objectif; *F. Paulhan*, Les vices de l'esprit humain et le subjectivisme.

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# THE PHILOSOPHICAL REVIEW.

## PHILOSOPHY IN FRANCE, 1917.[1]

DURING the month of April the Rev. Charles Wagner, one of the best known Protestant clergymen of Paris, talked informally to the senior pupils of a public school, under the auspices of the *League for Moral Education*. He took for his subject: *The Lesson of the Branch*. He pointed out the grasses, flowers and trees pushing up again with gentle persistence in places which had been cruelly laid waste by the war. "Although the barbarians destroyed all that they could destroy in our unfortunate invaded districts, as soon as the warm breath of spring came again, and the earth felt itself touched by the warm sun, everywhere in the track of these Huns, little green spears sprang up out of the ground. Not as capable of resistance as steel lances, they yet cannot be stopped. Attila used to say: 'Wherever I go with my hordes, grass never grows again!' Yes, Attila, it does grow again; life is stronger than thou!"

I recall these words—which were followed by prolonged applause—whenever I think how philosophical labors have continued in France in spite of all the various difficulties brought by the war. Paper for books has become scarce. For the little that is to be had, one pays four times the usual price. There are no printers; all those who are not too old or ill are in arms. Our younger generation of writers and professors are in arms too, and many of them have been mowed down by death. Others have been invalided by wounds or diseases contracted in the

[1] Translated from the French by Dr. Katherine E. Gilbert.

service, and cannot work. As for the older men, there are almost none among them who have not added to their professional duties voluntary service at the mayoralties, ministries, or hospitals—some contribution toward the many kinds of work helpful in national defense. Add to this that the hardships of physical life, anxiety for our sons in battle, sad memories of the dead, and restlessness in regard to the future which this frightful crisis is preparing for humanity, are conditions not suited to help disinterested reflection, the peaceful study of problems, the contemplative analysis of ideas. For such activities to proceed under proper conditions, there is need of leisure and liberty of mind. Well,—philosophical work continues nevertheless, through weariness, privation and anxiety. Like the grass which reappears on the shell-wasted land, like the shoots of trees which spring from the trunks cut down by the invaders, philosophical productivity surmounts all obstacles, our Faculties continue to teach, our two great Reviews still appear, and books, perhaps more numerous than last year's, still discuss philosophical problems.

## I.

As is natural, the question of *droit* is still in order.[1] Phases of the subject which we have already noted have been taken up again and developed afresh,—in the first place, the criticism of the theory (which spread especially in Germany, but which was held somewhat even in France before the war) that might makes right. In a volume entitled *La Force et le Droit*, with the sub-title, *Le prétendu "droit biologique"* (*Bibliothèque de philosophie contemporaine*), M. R. Anthony subjects the question to a close logical analysis. His method is somewhat scholastic, but unquestionably convincing. The author is an anthropologist and general scholar who has read widely and made extensive use of authorities. Students of the history of philosophy will find in his book the position of Hobbes interpreted in an entirely new way, and therefore rehabilitated; and although they may not accept the conclusion, they will surely be interested. Scientists will find in it an arsenal of facts taken from direct observation of

[1] See the *Philosophical Review*, 1916, pp. 531–541.

life, and original views on the problems of evolution. The author does not, like Kropotkin, M. de Lanessan, and Edmond Perrier, merely show that natural selection does not operate exclusively, or even chiefly, in the struggle between individuals of a given species. He knows this fact and recalls it. But his criticism is more profound. It rests upon a radical separation of ethical or normative ideas from biological ideas (as also from historical ideas of a biological type). The theory that might makes right rests upon the two following assumptions: (1). Evolution is an advance toward something better; it consists in a progress. (2). Selection through struggle is the essential factor in evolution. But in the opinion of M. Anthony, both assumptions are false; the first is contrary to the very spirit of science; progress. amelioration, is an extra-scientific concept; judgments of fact descriptive of reality cannot possibly give rise to judgments of value, which are appreciations of reality. Von Bernhardi used to say: "If it were not for war, inferior and degenerate races would finally stifle all healthy and fructifying elements; . . . it is in selection that the creative force of war resides." And Professor Lasson: "A State could not logically admit the decisions of any tribunal as superior to itself, without thereby disappearing. Conflict is the very essence and law of the relations between states." Biology confirms neither the one nor the other of these statements. There has been talk of 'biological justice.' The phrase is affected and senseless. The 'progress' which is gratuitously attributed to evolution cannot be defined except by an act of faith springing from some other source than the observation of facts. Historically, it is not even certain that man is the last arrival on the surface of the globe. And whether he is or not, proves nothing; is the last arrival necessarily the best? We have here an affirmation implying the belief in certain *values*; it is to these values, therefore, that we must have recourse in judging of right and justice.

The second assumption to which the advocates of biological war appeal, stands the test no better; for it is possible to show that the selection resulting from struggle (that within species as well as that between species) seems to play only a minor part

in evolution. Furthermore, the selection due to struggle between members of the same species results chiefly in the acceleration of the process of extinction, and especially in the increasing of specialization, which finally robs the species of the plasticity necessary to life. Finally, the most harmless selection—that due simply to competition without aggression or battle—is undoubtedly able to conserve the most richly endowed individuals, those best fitted to satisfy their needs; "but this is owing to the fact that in this case superiority lies not in force, that is, in the means of harming others, but in the ability to utilize the means of livelihood." So the conclusion is that the struggle of men among themselves, however envisaged, is opposed to happiness, as well as to the perfection of 'human nature.' Spinoza had already demonstrated this truth.

Judging merely from the formulas, one would be tempted to believe that Dr. Grasset's book, *Devoirs et périls biologiques*, is directly opposed in its teaching to the book we have just considered. Is not belief in 'biological obligations' of the same kind as belief in 'biological justice'? To think this, however, is to misunderstand the thought of the famous professor of Montpellier. By 'biological obligations' he does not mean duties imposed by biology, but applications of moral obligation, for which biology furnishes the material.

It is evident that, for the fulfillment of duty, one must know physiological and sociological laws; a good will cannot make up for that lack. Only science and experience can teach us the danger in stimulants which give momentary well-being at the cost of permanent poisoning—stimulants such as alcohol, morphine, ether, cocaine. Science and experience are needed again to define the laws of hygiene, to prove the physiological necessity of work, and determine the point where it becomes excessive, and hence harmful and contrary to morality. The pathological character of suicide in its relation to the individual and society is another 'biological' reason for condemning it ethically. If Dr. Grasset's belief that the existence of the family is a necessity of social health could be shown to be true, the sexual obligations of man would be precisely defined. Depopulation through a

low birth-rate or high mortality—now simply facts—would translate themselves into injunctions, or even obligations.

There have been biologists, it is true, who have believed that natural science teaches us the law of struggle: for example, M. Le Dantec, in his book on *Égoïsme* (1911). No, replies Dr. Grasset, fortunately this is an error contradicted by all life and even by Le Dantec's own character;[1] but an error the more dangerous and the more to be guarded against in that it has clearly played a terrible rôle in the military hysteria of the Germany of to-day. It is true, of course, that Germany has had no monopoly of the pseudo-scientific theories which weaken the notion of right. We must even recognize that some of her great thinkers, Kant surely, and even, with some reservations, Jhering, have seen that the 'historical and biological' school is weak even in theory; it is important not to identify all German philosophy with the manuals of the General Staff. Nevertheless, the mistakes of biology are to some extent responsible for this systematic scorn of humanity.

In contrast with the author of *Égoïsme*, Germany has put its doctrine into practice, and we have seen all the applications of a *Kriegsraison* contrary to the 'rules of war.' "But is the culture of which the Germans boast and by means of which they justify their Vandalism a true expression of science?" To believe this is to fail to recognize that there exists a 'human kingdom' even from the point of view of scientific observation, and that 'human biology', when completely understood, shows that the conditions of human existence are quite other than those of flesh-eating animals or even of ants. The existence of altruistic sentiments; their value for the survival of the individual and the race; the enormous 'biological danger' which would follow a weakening of these sentiments—a danger which is only too well attested by the present struggle—this is what Dr. Grasset presents as 'fact,' and if he disagrees with M. Anthony on points of detail, he certainly agrees with his fundamental idea.

## II.

Such are the reflections of the biologists. The reflections of the jurists reach the same result. In a remarkable article

[1] See below, §VI.

published by the *Revue de Métaphysique*,[1] M. Davy inquires both as a student of the history of law and as a philosopher: *Why is the pledge of one's word binding?* He shows that regard for agreements (made either by treaty, contract, or simple promise) is a product of civilization, and that one may trace the gradual development of this attitude. To attach importance to a pledge is by no means to miss the teaching of history and show Utopian tendencies; it is rather to keep to the course of all historical progress. The farther back we go, the more we find the only sources of legal bond to be authority or fact. In ancient Roman law "the very notion of a contract, properly so-called,—that is, the notion of an agreement which is preëminently voluntary, does not exist."[2] In that primitive time the obligatory force of an agreement came neither from conscience nor from the volition of the subjects. What made these agreements effective was the variety of contrivances designed to hold men together by external means—devices which have a borrowed power, and somehow always materialize and objectify the legal bond which they constitute.[3]

It would be impossible to summarize here M. Davy's learned analysis of *nexum*, *mancipatio*, and *damnatio*. The notions of giving a pledge, hostage, or bail are the essence of them. Formal justice is at first conceived of as a system of acts producing physical or magical effects: "*Nuda pactio obligationem non gerit.*" The true contract gradually frees itself from this system, but even after it begins to assume its true form, it retains some traces of the primitive type of obligation. The pronouncement of history is then this: To those who invoke it to prove that treaties have always been 'scraps of paper' unless guaranteed by force, it answers that, on the contrary, they have *increasingly* had value in themselves, and that scorn for contracts is a regression.

M. Lévy-Ullmann considers the question from another angle, and in a very interesting and learned volume reviews all the classical definitions of law (*le Droit*) and discusses their merits

[1] May, 1917.

[2] *Revue de Métaphysique*, May, 1917, p. 333.

[3] *Ibid.*, p. 334.

and defects.[1] M. Lévy-Ullmann was professor of civil law in the unfortunate University of Lille, in the region at present occupied by the Germans. Fleeing before the invaders, he came to Paris, where he has had charge of a course in the Faculty of Law. His book begins by bringing to mind and criticizing the formula of the *Institutes* and of the *Digest*; then the formulas, also ancient, which defined law by the authority of enactments. He then examines in great detail the contemporary attempts to penetrate farther into the problem. He divides these into two general classes: (1) The definitions of Law which treat this term as really inclusive of *several* distinct concepts, and which therefore abandon any attempt to find a single formula covering them completely; for example, those of Baudry-Lacantinerie, Cheneaux, also of M. M. Planiol, Ambroise Colin and Capitant. With these must be associated the view of M. Demogue,[2] who believes that the notion of law may be, not defined, but described (or, as a logician would say, defined by postulates). (2) The views which pretend to have found a single definition, which applies to the word in the whole extent of its meaning, generic definitions, of which all partial definitions would be regarded as mere species. This is the author's own view; but here again he uses his own formula only after having carefully reviewed and classified those of the best known jurists. Some of them discuss the legitimate use of force in law: "Law," Aubry and Rau used to say, "is the sum-total of precepts or rules of conduct to which men may be constrained to conform by an external or physical force."[3] Or again, some investigators try to understand the purpose of law: "Law," said Bufnoir,[4] "is the sum-total of rules which regulate, under the social sanction, the liberty of one man in relation to that of others." Quite recently a penetrating study of this same conception has been made by M. François Gény, one of the most philosophical minds among our professors of law.[5] In a work

[1] *La définition du Droit*, one volume, 8vo, *Librairie du Recueil Sirey*. This volume is to be the first of a series entitled: *Eléments d'Introduction générale à l'étude des sciences juridiques*.

[2] *Les notions fondamentales du droit privé*, 1911.

[3] *Cours de droit civil*, 1839.

[4] *Cours de droit civil*, 1888.

[5] M. Gény is professor in the faculty of law at Nancy. The work which gave

(*Science et technique en droit privé positif*)[1] which has appeared since the opening of the war, he defines law thus: "The sum-total of rules which regulate the external conduct of man in relation to that of his fellows, and which—following out man's natural sense under conditions created by the collective conscience of humanity—seem to be susceptible of a social sanction, or at need of the sanction of force, and are (or try to be) provided with such sanction; and from then on assume the form of categorical imperatives regulating particular wills for the sake of social order."

With this definition—which assuredly conforms but little to the classical stipulation of brevity, but which has force and depth—M. Lévy-Ullmann connects, and yet distinguishes from it, those which are influenced by the Kantian tradition, whether they follow it altogether or transform it in the spirit of sociology;[2] for example, those of President Tanon,[3] M. Duguit,[4] or in a different spirit, of M. Gaston Richard,[5] and M. Charmont.[6]

In the light of these attempts at definition, varying in form indeed, but bound together by their belief in the intrinsic *value* of law and its ethical validity, what new definition does M. Lévy-Ullmann propose? This: "Law is the defining of what men and groups of men may or may not do without incurring censure, seizure, or a particular application of force."[7]

Logicians will doubtless be disposed to cavil at this "particu-

him his reputation is entitled: "*Méthode d'interprétation et sources en droit privé positif.*" Paris, Chevalier Maresc, 1899.

[1] Two volumes, 8vo, *Librairie du Recueil Sirey*, 1914–1915, No. 16, p. 51.

[2] In this connection it may be remarked that M. Durkheim always remained Kantian in his ethical point of view, even while becoming a sociologist. I have often heard him say that in his opinion all of Kant's ethical analysis is true, but the reality which it describes remains unexplained. Sociology validates Kant's postulate of an absolute and existing duty by discovering the explanation for it, and its relation to facts.

[3] *L'évolution du droit et la conscience sociale*, 1900.

[4] *L'État, le droit objectif et la loi positive*, 1901. *Les transformations du droit privé*, 1912.

[5] *La sociologie juridique et la défense du droit subjectif*, *Revue philosophique* March, 1912. This is particularly a discussion of M. Duguit's thesis as set forth in the books just cited.

[6] *La Renaissance du droit naturel;—le droit et l'esprit democratique*, 1908.

[7] *La défense du Droit*, p. 165.

lar application"; they will ask whether law is simply a question of doing or not doing and whether it does not admit of the notion of compulsion,—the appeal to authority in order to force men to act or to abstain from acting; philosophers will surely reproach M. Lévy-Ullmann also with not having emphasized sufficiently the notion of a moral standard and with apparently reducing the whole question of law to the matter of particular enacted laws. But although this last objection has some foundation, it is valid rather in respect to the precise terms of the formula than in regard to its basis. Simply in reading M. Lévy's commentary and the 'considerations' by which he sustains his argument, one is convinced that the liberty of which he speaks is not merely physical liberty in Hobbes's sense, but "such a liberty as Kant recognized, and as the Declaration of the Rights of Man defined,—the power to do anything which does not injure another."[1] The author uses as the motto for his conclusion the sentence from the well-known jurist, Beudant, who wrote in 1891: "In the development of contemporary thought, England represents the principle of Utility, Germany, of Force, and France would no longer represent herself, if she ceased to represent Justice."[2]

## III.

It is not really leaving the question of '*droit*' to speak of the *Society of Nations*,—a theme long regarded as a Utopian fancy and classed, along with other illusions, among "*les rêves d'un homme de bien*."[3] Before the war men were glad to leave this notion to the philosophers; practical men boasted of their scorn for it. To-day, on the contrary, lawyers and politicians are not too proud to discuss it. And only a short time ago one of our dailies, which always embellishes its title-page with a motto in large characters, had at the top of that page this sentence: "Every man has two countries, his own . . . and the Society of

[1] *Ibid.*, pp. 138–159.

[2] *Le Droit individuel et l'État*, p. 288.

[3] *Les rêves d'un homme de bien* is the title of a famous little book which appeared in 1775 and sums up the most interesting ideas of the *Abbé de Saint-Pierre:* his project of perpetual peace, of taxes in proportion to income, of the higher education of women, etc.

Nations." To be sure, another journal quickly protested as if, in thus adapting the famous line, something shocking had been said against patriotism. But public opinion is more and more favorable to the idea, especially as in France it is considered a 'Wilsonian' idea.

Two important volumes have appeared this year on the subject, and one pamphlet which is as important as a volume. Both books are entitled: *La Société des Nations*, and their respective authors are a jurist, M. Maxime Leroy,[1] and M. Edgard Milhaud,[2] the Dean of the Faculty of Social and Economic Sciences at Geneva. The pamphlet, by M. Ferdinand Buisson, was published by the *League of Human Rights*, of which he is President; it is entitled: *Les principes de la Société des Nations*.

These works are all characterized by the anxiety to avoid visionary optimism and the use of such imprudent, antiquated remarks as: "It is desirable; and, if realized, would be very beneficial; *therefore*, it is possible." The *thou oughtest, therefore thou canst*, has no place in international politics; the forces at work are too independent of the individuals who think. I do not mean to say that the moral and personal aspect of the question seems negligible to them. Far from it: for example, M. Milhaud lays emphasis on the necessity of the development of a public opinion parallel to the new organization. He reckons upon an education fitted to nourish the 'international loyalty' which is to be the objective and psychological aspect of the new regime. He thinks that journalism will play an important part in forming this new type of mind. Similarly, M. Maxime Leroy expects that international relations will be matters of general knowledge in order that appeals may be made to public opinion and that the shabbiness (*mesquinerie*) or immorality of diplomatic intrigues may be avoided. He also believes that the men of the twentieth century—at least all those that think and who are capable of acting in accordance with their thought—must be brought to see "that there is no national honor superior to right, or, more exactly, that the sentiment of honor must be absorbed in that of

[1] Giard & Brière, publishers, 1917.

[2] Bernard Grasset, publisher, 1917.

right." But both of them know and feel that these mental and moral attitudes are not sufficient to change the frightful *régime* of violence in which we are living; for this there is needed larger action, and action founded objectively on fact. Are there such forces as are needed? One can not suppress war as one can modify an institution established by act of Parliament. M. Maxime Leroy, in particular, has set himself to sustain his argument by present matters of fact and by historical analyses relating especially to the *nature* of societies and governments. Almost all civilized modern states have been transformed in their inner constitution, that is, in regard to their citizenship: they have got beyond the authoritative *imperium*, 'government' properly so-called, to an administration through public departments, operated in the interest of the citizens. At the same time the citizens themselves have become more on a level with each other, and more influential in the direction of affairs. As to their foreign relations, states have accepted international agreements more and more,—on very special questions, it is true, but in ways which limit none the less the absolute authority which governments in former times arrogated to themselves. In international law as it concerns individuals, the principle of territorial sovereignty has constantly receded before the principle that laws apply to persons; the stranger more and more remains subject to his own law, which prevails over the law of the country in which he lives. The entire commercial and industrial class has been working actively in the same direction; and before the present war—which has put everything on trial—it had made considerable progress toward that end. *These two movements, the internal and external, go hand in hand*; this is one of the main ideas of M. Leroy's book. The State has ceased to have a 'feudal' relation to its citizens; they are less and less 'subjects;' also, though less apparently, it has lost this 'feudal' character in relation to other peoples. 'Sovereignty' has been checked a little by each of the judicial reforms of the past centuries. It moves, therefore, continually toward a condition in which it would no longer obstruct the administration of a higher authority; and the traditional predilections for it can now no longer sustain it.

Examples such as those of the Swiss cantons, the United States, the Pan-American Union, the British Dominions, the Union for arbitration formed by Argentina, Brazil, and Chili, show that states can in actual fact be largely autonomous, and yet that this autonomy need not imply absence of all control, or all legal, administrative, or even national connection with other states. As M. Milhaud remarks, even the present war has brought the Allies into a closer economic and political bond of union than former alliances that were made for political or war-like purposes; and the *League of Neutrals*, formed at the same time, also presupposes a partial abnegation of 'sovereignty.'

We must try to understand thoroughly what it is we want, to foresee the most practical system of organization, the most secure system of sanctions; economic sanctions first, in which M. Milhaud has great confidence, M. Leroy a little less; then military sanctions, which may not perhaps enter actively into play, but without which the guarantee of international justice would be too weak. "Law," says M. Buisson in the same spirit, "only reigns in any human society, when it has force at its command. Civilization no more consists in the separation of law from force in the international than in the national stage. Power without justice is the rôle of the criminal; justice without power the rôle of the victim. Human society should be neither the one nor the other . . . . That is why reference to a Society of Nations as to a Platonic incarnation of Justice, shows ignorance of even the data of the problem. The Society of Nations would amount to nothing, not even to a frail barrier, if it were not at least as well armed against delinquents, as sure of prevailing over them, as superior in force to all possible rebellions, as each nation is to the enemies of common justice." But although these military preparations are indispensable, they will perhaps be little used, just in proportion as they are solidly made and there is world-wide knowledge of them. They can be used as a preventive before being used for repression. This is precisely what happens within each State. For we must remember that in every country there is an infinity of litigation which is never brought to court, of offenses or crimes which are never committed, in spite of the

tendency of individuals toward them, because public opinion clearly foresees the outcome of the legal process or the repression of the crimes; and to this anticipation is finally grafted the sentiment which is properly moral. Some day we shall see this sentiment operative between states, as it is now between individuals. "The function of a society is precisely to change the state of mind of its citizens. A society of citizens creates a feeling of obligation toward the nation. A society of nations will create a sentiment of international justice." But in the opinion of all those who desire this judicial organization in the future, it should be established from now on between the Allies. "It would be the best proof," says M. Buisson again, "that they could give each other and the world of their absolute sincerity, and of the practical efficacy of the remedy they propose for this international anarchy—an anarchy which has heretofore had no other remedy than war."

## IV.

It was inevitable that the war should react upon the estimate placed on German philosophy. About 1890 to 1900 the estimate, it is true, was too high. There were a number of reasons for this exaggeration. Just as pleasantries in a foreign tongue (when one finally understands them) seem much better than in the original language, so philosophical ideas seem more profound, perhaps because one is so pleased with oneself for grasping them. In the case of German—a language particularly difficult and far removed from our own—the effect is naturally strengthened. Moreover, the French easily become infatuated with a neighboring people, as, for example, with the Italy of the sixteenth century, or the England of the eighteenth. Then too, the Germans gave themselves out as the philosophers *par excellence*, and in the end people simply took their word for it. Beside their real qualities, people attributed to them imaginary ones.

To-day the reverse is true. It is not possible to give here a bibliography of all the criticisms of German philosophy. They are everywhere, given in a few lines, either in the pages of the Reviews, the daily papers, or non-philosophical books. I shall

mention merely as specimens two books which are very different from each other: *Science française et science allemande* by Dr. G. Papillaut, professor at the Paris school of Anthropology; *Morale kantienne et morale humaine* by M. Sartiaux, who seems to be of a different type, and—judging from his ideas—to belong to the religious and conservative element of society.

*Science française et science allemande* is written from the naturalistic and scientific point of view. The plan of the book consists in setting over against each other two ways of philosophizing. The first way is to satisfy the normal human instinct for rationality. It is the outcome of the direct or indirect analysis of concepts; it starts with experience and extracts from it certain rigorously defined conceptions, of which numbers and geometrical figures are the perfect examples; and then proceeds to determine the exact relationships between the phenomena thus defined,—first classifying the phenomena, then ascertaining the causal connections, and finally, establishing laws. This is the good method inherited from Descartes, Condillac, Cl. Bernard, the method of honest and objective science. The second consists in "the vicious satisfactions of the instinct for rationality." It appears in Scholasticism (in the bad sense of that word, for M. Papillaut recognizes that there were some fruitful systems in mediaeval philosophy). It is the method of *vague* abstraction, the very opposite of the first method. Out of conceptions imperfectly understood, it makes explanatory entities. It hypostatizes actions and relations. It confuses the laws which sum up phenomena with the causes that produce them; and in order to give a complete (although illusory) satisfaction to our desire for unity, it intoxicates us with grand mystical conceptions and dazzles us with a mythology of abstractions and categories, transformed into real powers and capable of engendering the universe.

The first of these two tendencies, according to Dr. Papillaut, is the guiding-principle of French rationalism and the greater part of English Empiricism, movements which are also in other respects more closely connected than has been commonly noted. The second is represented by German philosophy and its mis-

guided followers in France and England. One's first thought, in reading this description, is of post-Kantian Romanticism. But M. Papillaut goes farther back: Kant himself, in his opinion, is the best example of this philosophy. Nothing could be more scholastic or verbal than his distinction between the *matter* and *form* of knowledge, when the truth is that experience moves in a continuous development toward reason. Nothing could be more useless (Schopenhauer had already made fun of it) than the *ne varietur* table of twelve categories with their artificial symmetry. Did he not know that the categories came from Aristotle's analysis of the forms of language? Quite in the same spirit, Kant interpreted the *sensibility*, the *understanding*, and the *reason*, as 'distinct powers,' superior to the process of knowledge and regulating its mode of activity. Then what does he mean when he represents all these forms as belonging "to the human mind?" This mode of speech is perfectly legitimate, if an objective view of the world is admitted, and if the categories are taken as showing the special character of the psychical functions of the human race, the latter being regarded as a biological species. But this is not what he means, or else he remains singularly unclear at this point. Moreover, if that is his meaning, he ought to recognize the essentially variable and progressive character of these categories. But this would be quite opposed to the spirit of his work, which represents them as the invariable and eternal forms of transcendental logic. Then again, the same formalism dominates his ethical system and deprives it of the value commonly assigned to it. The Humanity within us which he wishes us to respect is not the individual and living person, such as Renouvier later put at the center of his ethics, but an elusive abstraction. The spirit of positive science, in ethics as in epistemology, is radically opposed to the Kantian 'scholasticism.'

It is from another point of view, one which is, if not religious, at least sympathetic to Catholicism,[1] that M. Sartiaux attacks the ethics of Kant. As he justly remarks in his opening pages,

[1] This is the author's own statement. But elsewhere he does not hesitate to acknowledge that the argument in the 'transcendental dialectic' against the proofs for the existence of God is decisive, and that other proofs must be sought.

French Catholicism has always been opposed (perhaps mistakenly) to Kantianism, a philosophy which, on the other hand, has been welcomed by the liberal and rationalistic parties. The reproach of Kantianism brought against an ecclesiastic, was, before the war, and still is, a very grave accusation. In the opinion of M. Sartiaux, Kantianism is a product of Protestantism (which he dislikes), and has the same hybrid character. The 'good will' as the basis of all morality is merely 'intention' as Luther understood it. It is the philosophy of the 'half-believing' who have abandoned the traditional church and do not dare in their weak revolt to go as far as radical naturalism.

The book is interesting in spite of the errors and the too evident prejudices. For example, the author believes that the spiritualism of Cousin is still the basis of the ethics officially taught in the primary, secondary, and higher schools, which is not true; he takes literally Schiller's epigram about the duty of despising one's friends, and Heine's coarse jokes about old Lampe weeping over the criticism of all speculative theology. In spite of definite statements to the contrary in the text, he attributes to Kant the pretension of founding a 'new morality'; he misrepresents Kant's ideas on war and peace; and finally, relying upon the testimony of those who knew him best in his old age, he paints him as an insane egoist, one who, through the regularity of his habits, had become almost a machine, the most Prussian of Prussians, lacking in frankness and sincerity, infatuated with discipline, subservient to authority, incapable of conceiving of good otherwise than in the form of a command—a command-in-itself! All this is true—as a caricature is true. Yet there are some blows which hit. The discussion of Kant's ethical formalism is sound and penetrating. The opposition between the morality of the Good, which attracts, and of the Imperative, which commands, indicates a thoroughly philosophical and justifiable point of view. It will be remembered that long before the war M. Brochard, professor at the Sorbonne, in a famous article,[1] and also M. Cresson, in his *Morale de Kant*, had already begun a campaign in that direction.

[1] "*La morale ancienne et la morale moderne*," *Revue philosophique*, 1901.

However, at the present moment, it would be more philosophical still, not to confuse the criticism of ideas with national issues, for such a confusion can only weaken one's judgment. Perhaps German philosophy has gained something, as M. Sartiaux says, "from the spell which foreign ideas always cast over France." If it has, we must admit that the same illusion has been produced in England and the United States. But is this a time when we can see things in just the right light? Let us hear the charges, but wait before judging and perhaps especially before *making distinctions*. At present Kant's is the name best known in German philosophy. He attracts blows as did the white plume of don Sancho. Twenty years from now we shall be able to tell whether or not he was really wounded.

In Switzerland, at least, he is still a strong influence, as is also all the idealistic metaphysic which followed him. An interesting proof of this is the *Études de philosophie morale*, written by the young and distinguished professor in the University of Geneva, M. Charles Werner. This work strongly reminds one of the French Eclecticism of Victor Cousin by its matter, and perhaps still more by its form. It is not only well written, but at times eloquent, and with the eloquence which we still admire (while no longer subscribing to the doctrines) of the author of *Du Vrai, du Beau et du Bien*.

M. Charles Werner has the religious, ethical, and metaphysical temper. Naturalism, the scepticism of free thinkers, and especially pluralism, are his enemies, as they were the enemies of the English Neo-Kantians of the school of Green. In his opinion, Hegelianism is still the ideal form of philosophy, because it expresses the noblest attitude which a mind reverent before the works of God, and exalted in the contemplation of the Absolute, can take toward the universe. Kant himself, he thinks, was not enough of a metaphysician; he was too close to agnosticism, too attached to that "*fruchtbare Bathos der Erfahrung*," which he preferred, he said, "to high towers and to men who resembled them." At another point the philosophy of Renouvier undergoes severe treatment at the hands of M. Werner. In one of the important chapters of the book, the splendid orderliness of

the idealistic structure is contrasted with the narrowness and lack of unity of neo-criticism. M. Werner wishes particularly to warn his compatriots, the Swiss theologians, against their tendency to seek in neo-criticism support for their religious conceptions. Genuine, radical evil, such as Renouvier conceives of, he cannot admit: his optimism and conception of God would not allow it. How could a world so stained with imperfections express the Absolute Mind?

## V.

In psychology, apart from a very good general treatise by M. Dugas on Memory, treated exclusively from the introspective point of view,[1] and a certain number of articles in the *Revue Philosophique*, miscellaneous articles are continually appearing.

First, all sorts of works upon the psychology of the war, some written up hastily in a dug-out during the strange breathing-spaces of battles or in the hospitals at the rear, when the wounded are not too numerous. Dr. Georges Dumas, Professor of Experimental Psychology at the Sorbonne (during war-time *médecin-major*), has published a series of articles (soon to be published in one volume) in the *Revue de Paris*[2] under the title, *Les troubles mentaux et la guerre*. Dr. J. Lépine, professor at the University of Lyons, has just brought out a work which has been very highly estimated, called *Troubles mentaux de guerre*[3] (containing a very full bibliographical index of French works on the same subject). *Hystérie et Pithiatisme*, by Drs. Babinski and Froment, also contains sections of philosophical interest.[4] In *Les Émotions et la guerre*, by Dr. Maurice Dide,[5] there is a little of everything, from what the title would indicate to a social psychology of the German people and a theory of physiological ethics in which reference is made to Guyau. In an essentially similar vein, but in a more 'literary' manner, Drs. Huot and Voivenel have written a book on *Courage*,[6]—a glitter of anecdotes, pleasantries, historical

[1] *La mémoire et l'oubli*, 1 vol., 12mo, Flammarion, 1917.
[2] *Revue de Paris*, June 15 and July 15, 1916; March 1 and April 15, 1917.
[3] One volume, 12mo, the 'Horizon' collection, Masson & Co., 1917.
[4] Same publisher and same collection.
[5] One volume, 8vo, *Library of contemporary philosophy*, Alcan, 1917.
[6] One volume, 12mo, Alcan, 1917.

reminiscences, theories, and literary or philosophical quotations or allusions. There is much talk of women *more militari:* one seems to hear the sound of after-dinner chatter at an officers' and sugeons' mess covering up with bursts of somewhat feverish vivacity the noise of a near-by cannonade. A much more sober work is that of M. J. Sageret: *La guerre et le progrès.*[1] Under this decidedly comprehensive title the author discusses, in an intelligent and often suggestive fashion, a series of philosophical or social questions relating, on the one hand, to man's place in nature, and on the other, to the present situation. It abounds in flashes of insight and ingenious criticism of many contemporary theories. In this respect, it is a good book to represent the state of philosophical ideas at the present time among the mass of educated people who *are not* specialists.

There is also much that is worth while in a little book by Mlle. Joteyko on *La science du travail et de son organisation.*[2] She gives the practical results of investigations (especially her own) on the subject of fatigue, and some observations on the psychology of working-men. Naturally, an important chapter is devoted to the Taylor system. Another chapter, comparing the work done by the right hand with the work done by the left, gives some curious conclusions, which are doubtless provisional.

Further, two works have just appeared in the *Library of Contemporary Philosophy* by well-known authors, upon the abnormal or hypothetical phenomena of psychical life. The first is *Automatisme et Suggestion* by Dr. Bernheim, veteran in the scientific battles which have made famous the name of 'the school of Nancy.' It is well known that the school admits, with reference to such questions as we are discussing, only one essential and basal fact: *suggestion.* According to the teachers of the school, Dr. Liébault, Dr. Beaunis, Dr. Bernheim, the professor of law at Liége, there are no 'hypnotic phenomena,' if by that is meant special phenomena, depending upon an hysterical neurosis, and peculiar to only a few individuals. There is in all men

[1] One volume, 12mo, Payot, 1917.

[2] One volume, 12mo, Alcan, 1917. Mlle. Joteyko is head of the psycho-physiological laboratory at the University of Brussels. At present, while a refugee in Paris, she has charge of a free course at the Faculty of Letters.

*suggestibility*, ranging from the most normal susceptibility to persuasion and example, to intense, exaggerated forms (for all psychological phenomena are exaggerated in some people) which are of extreme power. Many chapters of the book are devoted o the establishment of this doctrine by new facts. Perhaps the most interesting of these chapters is the one on psychotherapy which gives striking examples of what an intelligent physician can do by word and gesture without any other therapeutic agent.

Dr. Bernheim also rejects as myth the splitting up of the mind, the action of a superior or distinct subliminal ego. He believes that in cases where one seems to see a split of this sort the psychological state is simply analogous to that of the man who falls asleep and who, while dozing, directs or perceives more intense and spontaneous images than when awake. If, while in this intermediate condition, one writes, like Coleridge, or composes music, like Tartini, the illusion later that these acts were performed by a radically distinct ego is due simply to forgetfulness. How many things we forget that we have experienced even when fully awake!

M. Bernheim discards, therefore, as illusions all phenomena which might be supposed to call into play occult powers or new faculties. On the other hand, it is these very phenomena which compose the subject-matter of M. Boirac's latest book: *L'Avenir des Sciences psychiques*.[1] He here discusses at length the 'suggestionist' interpretation of the School of Nancy, and, in particular, recalls the fact that one of its founders, Liébault, to whom I just now referred, had written a curious work on *zoomagnétisme* which his successors let fall into oblivion. By *psychical sciences* Boirac means the study of the phenomena of telepathy, animal magnetism, clairvoyance, and prevision. The book is a rational, moderate, often sensible argument for their reality. It would be too much to say that it is convincing. It brings forward only a few new facts; also, the main point of

[1] One volume, 8vo, the *Library of Contemporary Philosophy*, Alcan, 1917. M. Boirac died this year shortly after completing this book. He was rector of the University of Dijon, and author of a *Cours de philosophie* which has been much used in the *lycées* for a long time.

the book, relating to seeing at a distance, is based on a quite recent account of a fact observed twenty-five years ago. What may not happen to one's memory in so long a time! And, furthermore, the old material is taken either from works quite lacking in critical temper or from eminent writers who (strangely enough) have, since making these statements, ceased to pursue an experimentation which seemed to promise so much fruit.

This is not saying that accounts of this sort contain no truth whatsoever. In my opinion, it is impossible to get rid of the impression that there is something in them; and I believe that if the majority of men accustomed to introspection would examine without prejudice their immediate experience, they would be inclined to believe that there are functions in the psychical life to which the ordinary current of life gives little opportunity. As to the physical possibility of such functions, it could not be questioned. Perhaps, as Schopenhauer and M. Bergson have thought, telepathy has become rare among us simply because of our mental habits: the spread of instruction through books, and of abstract and conceptual thought may be an obstacle to the normal development of intuition in highly cultivated people. Sceptics will reply that if greater illumination has caused the disappearance of 'second sight,' it is simply because this progress has developed the critical spirit and diminished the amount of credulity. If true, it would be a welcome change; but I fear the argument is too optimistic.

## VI.

This year, again, there have been two notable and untimely losses in French philosophy: Félix Le Dantec died on the sixth of June in his forty-ninth year, and Emile Durkheim on the fifteenth of November, when not yet sixty years old.

Félix Le Dantec had the training and career of a professional man of science. He taught general biology at the Sorbonne. But he always felt the influence of the solid mathematical, and particularly physical, discipline with which he began his studies. It has been said, not without reason, that mathematics and physics are 'the humanities of science.' When properly employed, these

studies furnish the method for all other sciences,—a method which is perhaps a little too severe and must sometimes be relaxed, but which must always remain an ideal of demonstration and analysis. Philosophy, properly so-called, which is its complement and corrective, Le Dantec had never studied. He did not know, except through fragmentary and belated reading, the traditional position of psychological and metaphysical questions. Hence the singular gaps which I have sometimes had occasion to note when speaking of his works, and which are especially apparent in his early anti-religious writing, such as *Conflit* or *Athéisme*. Belonging as he did to a devout Catholic family of Bretagne, and having often had conversations with the ecclesiastics or communicants—who were scarcely philosophers—he had directed all his criticism against this customary, external, and unreflective religion, without investigating wiser and abler interpretations, which aim not so much at instructing the people, as at satisfying philosophical demands. If one told him that the objections made through the interlocutors in his works were too weak, he answered in perfect good faith that these objections had been made to him in these very words, and cited the name of this or that curé who had discoursed with him. And if one objected again that this naïve apologetic was not the whole of Christian philosophy, he replied that since it was the current form, taught to the entire public, and visibly false, it had to be combatted. If there were something further, it would later come to light, and it would then be time to discuss it.[1] Nevertheless, radical as he was in his writings, in practice he was completely tolerant, leaving his family to follow the rites of Catholicism without the slightest objection. I said the same thing in this Journal, but with the opposite application, regarding Delbos, who was a Catholic and followed tradition. Great minds are not intolerant. Like Bacon, Descartes, and Leibniz, they firmly believe that truth will always prevail without appeal either to force, trickery, or deceit; persecutors are oftener those with policies than those with convictions.

This insufficient use of technical literature which weakens

[1] I am summing up here some conversations I had with him.

the effectiveness of Le Dantec's critical work, also injures at times his exposition of philosophical conceptions,—still more so because he is fond of paradox and radical statements, with the object of stimulating reflection by upsetting prejudices. *Universal struggle; Egoism, the basis of all society*, are formulas of this kind. It is necessary to *translate* and *reduce* all that he says; when these two operations are finished, all the solidity, and often the depth, of his thinking come to light. One then understands why his books, which were often treated contemptuously by specialists, won a considerable and legitimate success with the public at large. I am acquainted with no work on biological phenomena as vigorous and penetrating as his *Eléments de philosophie biologique*.[1] His general theory of the deductive method in biology is a direct continuation of the Cartesian method and conception of science. It is empirical in that it unhesitatingly accounts for the formation of the structure of our minds by prolonged biological adaptation; but this granted, no one could press farther the rationalistic method and faith in the power of the human mind.

Emile Durkheim was essentially and temperamentally a philosopher, although he had won his reputation as a sociologist. Like many philosophers, he was a man of intense feeling. By the constant exercise of his will, he imposed a rigorous form on his ideas. But the natural force of his imagination and emotion, which he had disciplined but not destroyed, was one element in his great influence. M. Félix Pécaut[2] said of him: "He not only had pupils, but disciples, whose understandings he molded. He armed them with new categories, by the aid of which they thereafter carried on their thinking, and which they applied to objects which he himself had not investigated. He kindled in some spirits a veritable fire of moral faith; they sought, and he gave, a sure knowledge of duty."

The content of this faith is that there are in man, as it were, two men, as the teachers of Christianity felt so strongly. But

[1] Published in America under the title *The Nature and Origin of Life*, in the collection called *The New Knowledge*, A. S. Barnes and Co.

[2] In an obituary just published in the *Revue Pédagogique* (January 1, 1918), which is, in a brief form, one of the most penetrating studies on Durkheim.

according to Durkheim, these two men are equally intelligible and natural for a complete knowledge; the one is man, the *animal*, the other is man, *the social being*. We must unceasingly check the suggestions of instinct, fight against our desires, bridle our impulses. All of Kantianism is true: there is a categorical imperative of *incomparable* worth which rises above individual feeling. Only, this imperative does not belong to the world of a noumenal and incomprehensible self. It expresses the will of the social mind.[1]

But this is not saying that Durkheim entirely sacrificed the individual to society. Far from it; he safe-guarded the rights of the moral individual, perhaps even better than his great predecessor Auguste Comte. From his *Division du travail social* and *Règles de la méthode sociologique* to his last study on *Les Formes élémentaires de la vie religieuse*, there was constant progress in that direction. In *Le Suicide* and in two lectures delivered before the Philosophical Society under the title *La détermination du fait moral*, he gave to his assertions a personalistic emphasis that is ordinarily neglected, but which nevertheless is an important element in his thought. Man and society, each with its own specific character, always remain facing each other; but *what* man and *what* society? In proportion as civilization advances, the group which includes all mankind is enlarged. Henceforward, whether we know it or not, we are not merely Americans, English, or French, but *members of Humanity*. The existence from ancient times of universal proselyting religions, particularly Christianity, is the most striking historical proof of this fact, but it is not the only proof. A host of sociological observations could be adduced, lesser proofs, doubtless, yet notable and further confirming the truth of this process of enlargement: for example, that people even dream of such a Society of Nations as we spoke of above. But this expansion of the social bond corresponds to a transformation of the individual. In the days of the ancient cities and ethnic, narrow, and local religions, the individual had only the liberty of an animal. In all that constituted his properly human life—law, morality,

[1] See the *Philosophical Review*, 1916, pp. 255–257.

art, science—he was hemmed about with the most exact rites and lacked all freedom of initiative. Society was everything, and the individual, such as he was, was an integral part of it. With the rise of great modern States, and still more, of the international relations that bind them together,[1] man's position has changed: he has become more and more free; and society itself wills it so. It expects us to be *moral persons*, using our own judgment, our own initiative, and taking our own responsibility. Durkheim says further: "Society associates the moral personality with the religious worship it desires for itself; or rather confounds these two cults together; indeed, Is the ethical self anything else but the individual, as understood through the reason (in the largest sense of the word) as being one with God?" "Where is the highest Reason?" said a famous archbishop who was also a follower of Descartes, "Is it not the God I am seeking?"[2] If I dared to use a form of words which Durkheim himself did not employ, and which he might have thought too traditional or mystical, but which nevertheless seems to me to render his thought, I would say that the whole course of social evolution shows us God the Father associating himself with God, the Son, the Logos, and effecting this union through the Spirit. The most universal society would be the one most completely within each individual.

Thus to reconcile the needs of ethics and religious feeling with the complete objectivity of science; to explain religion and validate it largely through finding in it the spontaneous and necessary, although imperfect, expression of an observable and knowable reality, the social mind,—this was Durkheim's great directing idea. It is impossible to enter here into all the specific applications which flowed in abundance from this point of view, and which I have several times noted in this *Review*. He died prematurely at fifty-nine years of age, exhausted by a great sorrow, and perhaps also by the excessive labors in which he had sought relief. In July, 1914, his son had just been made an *agrégé*. He was a

[1] We are not forced to believe that war has diminished these international relations. They have been restricted in range, but have become more intimate between the allies. Taking everything into consideration, may we not hope that when peace is established once more, internationalism, in the etymological sense of the word, will have been increased?

[2] Fénelon, *Traité de l'Existence de Dieu*, Chap. LX.

pupil at the *École Normale*, a young man whose intelligence promised a splendid career. In particular, he planned to apply his father's ideas, which he seemed destined to carry on, to the study of the philosophy of language. While serving as *sous-lieutenant*, he was killed near Salonica by a Bulgarian bullet. The family was not certain of the news for several cruel months, during which time they alternated between anguish and hope. Those who were around Durkheim admired his Stoicism. Then one day the pain which he concealed triumphed over his efforts.

May the generations following our own know the reign of a peaceful and wise human society, which it has cost such sacrifices to defend!

ANDRÉ LALANDE.

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# THE PSYCHOLOGY OF THE AFFECTIONS IN PLATO AND ARISTOTLE.

## I. PLATO.

THE earliest Greek thinkers show comparatively little interest in the inner life of man. Their speculations are characteristically cosmological, not psychological. Human nature is not altogether ignored; human life, in the large sense, is contemplated and criticized; a beginning is made of the unending philosophical task of distinguishing a realm of the spirit and of relating it to the order of the world. But there is at first no clear recognition of conscious phenomena worthy of study on their own account. Such subordinate attention as is given to the scientific study of man is largely confined to his bodily constitution, his physical generation and his elementary processes of cognition. His pleasures, pains and passions, so far as they are considered at all, are treated for the most part from the practical point of view of ethics or in their relation to health and disease. The free, psychological discussion of the affections is an achievement of modern times, but the roots of all modern doctrines strike deep in the speculations of the Greeks.

The first considerable attempt at an affective psychology was made by Plato. But Plato drew largely on his predecessors and his work in this field, with all its originality, marks rather the end of a period than the beginning of a new one. His point of departure is the discussion concerning the relation of pleasure to good in contemporary ethics, but his views concerning the nature of pleasure and the affective life generally are greatly influenced by earlier opinion, which in its main trend was biological or physiological.

The scanty record of extant fragments bears out Aristotle's statement that the early Greek thinkers recognized only material causes. They explained affective phenomena, as they explained other phenomena, by relations of such principles as dry and wet, hot and cold, and notably by the maintenance or disturbance

of their normal mixture. Thus Heraclitus (c. 500 B.C.) tells us that dry soul is the wisest and best, but that it is "pleasure, or death," to become moist, a state exemplified by the soul of the drunken man; and, in general, the gratification of desire is connected by him with the exchange of dry soul-fire with moisture.[1] He notes the pleasurable effects of contrast—health with sickness, abundance with hunger, etc.—and speaks of the difficulty of contending with passionate anger.[2] Empedocles (born c. 490 B. C.) teaches that men think and also feel pleasure and pain by means of the corporeal elements, connecting these feelings, apparently, with the existence or disturbance of their harmony in the body and particularly in the blood about the heart which he regarded as the seat and substance of the whole mental life.[3] Anaxagoras (born c. 500 B.C.) is said to have shared with Empedocles the view, afterwards held by Plato, that plants experience pleasure and pain as well as animals.[4] From his doctrine that the sense-organ is stimulated by "the unlike," he seems to have drawn the inference that sensation is always accompanied with pain, which, if not at first perceptible, becomes so whenever the sensation is unduly prolonged or intense.[5] To Diogenes of Apollonia, a contemporary and opponent of Anaxagoras, is assigned a more positive doctrine. He made pleasure and pain depend on the aëration of the blood, pleasure arising when the properly aërated blood permeates the body freely, pain under the contrary conditions. A similar explanation is given of courage

[1] Fr. 118, 77. 117. Diels, *Die Fragmente der Vorsokratiker*, pp. 28ff. 1903.

[2] Aristotle, *Eth. Nic.*, II, 3, 10. 1105 a 8 quotes Heraclitus as saying that "it is harder to fight with pleasure than with wrath," but the Fr. only says *θυμῷ μάχεσθαι χαλεπόν*, which Aristotle also quotes, Pol. V, 11, 1315 a 30; *cf. Eth. Eud.*, II, 7. 1223 b 23.

[3] Ritter and Preller, *Hist. Phil. Græc.*, p. 139. The reference by Hippocrates, *The Sacred Disease*, Works, II, p. 856 (Eng. tr. published by the Sydenham Society) to those who held the heart to be the organ of thought and emotion, a reference unintelligible to the translator, is probably to Empedocles.

[4] Ps.-Arist., *de plantis*, 815, a 15ff.; Plato, *Tim.* 77B.

[5] Theophr., *de sensu*, 29, where the doctrine is sharply criticized. A similar view, in which, however, the pain is more distinctly limited to the initial disturbance of equilibrium, is attributed by Dieterici, *Phil. d. Araber*, VII, p. 37, to the Arabian philosophers of the tenth century A.D. The exact opposite of this ancient doctrine appears in a modern writer, H. R. Marshall, *Consciousness*, pp. 373, 379, that every presentation, in its first appearance, is normally pleasant.

and health and their opposites. The organ most sensitive to pleasure and hence most readily showing the symptoms of disease, he held to be the tongue.[1] Democritus (born c. 460 B. C.), who identified happiness with tranquillity, represented this state as attained by discrimination and moderation in respect to pleasure, excess and deficiency being both liable to cause disturbance in the soul. Philosophy frees the soul from passions as medicine heals the body. That Democritus considered the desired equilibrium physical as well as mental, follows from his whole atomic theory; thought, *i. e.*, the life of mind, is a mixture or blending of corporeal elements, and its function is seriously impaired if the mixture is unduly hot or cold.[2] It is probable that he held the different mental functions to be more or less definitely localized.[3]

A notable advance in the biological theory, one destined to exert great influence on subsequent thinking even down to modern times, appears in the writings of Hippocrates (born c. 460 B.C.) and his school. In addition to the principles of hot and cold, dry and wet, and the vague general conceptions of harmony and discord employed hitherto, new principles of explanation are introduced, such as coction, evaporation, exhalation, the nature and combination of the several humors, and the free flow of the pneuma, or vital spirit. Hippocrates is the first writer definitely to connect the whole conscious life, including the emotions, with the brain. When the brain is overheated, terrors and fears arise; when it is unduly cold, grief and anxiety. Evidence that fear is due to excess of heat is found in the flushed face and red eyes of the subject of a horrible dream. The heating of the brain is attributed to the flow of bile, its cooling to the flow of phlegm. When the bile returns to the veins and trunk, the fear is allayed. When black bile passes too freely to the brain,

[1] Theophr., *de sensu*, 43.

[2] *Fr. eth.*, 1 (Mullach), 191. 235. 31 (Diels); Theophr., *op. cit.*, 58.

[3] The tradition varies. Aetius and Plutarch, drawing on Epicurean sources, say that Dem. placed the rational faculty in the chest and distributed the irrational over the whole body (Diels, *Dox. gr.*, p. 390, *Vorsokratiker*, pp. 387, 105); Theodoret (cited by Diels, *Dox. gr.*, p. 391) makes him place the governing faculty in the head. In a spurious letter of Democritus to Hippocrates, which Diels, *Vorsokr.*, pp. 486ff., assigns to the time of the Empire, but which Zeller, *Phil. d. Gr.*, I, p. 809, quotes as genuine, thought is localized in the brain, the impulses of resentment in the heart, appetite in the liver, the view which is substantially Plato's.

melancholy is engendered, a state of persistent fear. In general, the explanation of morbid states reduces to a disturbed balance of aridity, moisture and temperature in the brain, which is abnormally hot or cold or dry or wet. Madness—we are reminded of the doctrine of Heraclitus—is a consequence of its humidity.[1]

The underlying cause of all mental and bodily affections is the mixture of the corporeal elements. If the mixture is balanced, each element being duly tempered by its opposite and blended with the other constituents of the organism, the bodily condition is at its best; but if the balance is destroyed, if one of the elements through coction, through thickening or attenuation of the fluids and the formation of humors, or from any other cause, becomes "separated out," there is disease and pain.[2] This doctrine, the foundation of which is to be found in Empedocles, may be taken as the first definite formulation of a biological theory of pain. Hippocrates is not so clear on the subject of pleasure. In the treatise on *Regimen* we have a doctrine of "temperaments," in which the primary consideration is the combination of hot-dry and cold- moist, of fire and water. The perfect temperament results from the equilibirum of these elements. Where fire abounds in the constitution, the subject is easily excited and unless careful in his use of meat liable to outbursts of furious rage.[3]

Besides the mixture of the elements and the related quality and distribution of the humors, Hippocrates reckons as a distinct and fundamental cause of emotional dispositions the character of the passages for the pneuma, according as they hinder or facilitate its movements, and according as its deficiency or excess in any part, by affecting the supply of blood, introduces disorder.[4] The introduction of this conception of the pneuma, which, as distinct from the external air, Hippocrates also calls φῦσα,[5] is of the

[1] *The Sacred Disease*, Works, II, p. 855f. The doctrine of the humors is most fully developed in the work, *de natura hominis*.

[2] *Ancient Medicine*, Works, I, pp. 171–174.

[3] Hippocrates, *Opera*, ed. Kühn, I, pp. 616ff..esp. 654, 666. The classical doctrine of the four temperaments was developed later by Galen.

[4] *De salubris victus ratione*, Hippocr., *Op.* I, pp. 665f. *Cf.* Poschenrieder, *Die platonischen Dialoge in ihrem Verhältnisse zu den hippokratischen Schriften*, p. 48. 1882.

[5] *De flatibus*, VI, 3.

most wide-reaching significance in the history of physiological psychology. We meet with it again and again in various stages of development, in Plato and Aristotle, in the Stoics, throughout the whole of the Middle Ages, in the period of the Renaissance, in Descartes and Hobbes, and even down to comparatively recent times, when its function as an explanatory principle becomes gradually supplanted by that of nervous energy. The doctrine connects itself with the primitive conception of the soul as breath, a conception derived from the phenomena of breathing and of death. It is also connected, probably, with observation of the foam-like character of fresh-flowing blood and of animal seed. Diogenes of Apollonia, opposing the dualism of Anaxagoras, had made "air" the very living, self-transforming matter of the universe, as Anaximander had done before him, and early Pythagoreans taught that the world "breathed." The affinities of the doctrine are, therefore, of wide range. The conception of the pneuma itself underwent many transformations. Most commonly it was regarded as intimately connected with the blood, often as its finest exhalation or distillation. To it were ascribed the animal heat and the animating functions of the body. It was the immediate material substratum of the soul, perhaps even the soul itself. After Praxagoras in the time of Alexander had discovered the distinction between the arteries and the veins and the arteries were found in the dead body to be empty, it was readily assumed that these were the passages through which the pneuma was transmitted. In this sense a generation later Eristratus taught that the vital spirit, inhaled from the air, rushes through the arteries to the centres, especially the brain and the heart, and there occasions thought and movement and exercises general control over all the organic function.[1]

Hippocrates not only puts forth a theory of mental and bodily perturbations, but carefully notes many of their symptoms. The most sensitive organs in this regard are the diaphragm and the heart. The diaphragm throbs and palpitates in unexpected joy or grief, being easily moved "on account of its thinness." The heart is still more sensitive, since "veins," *i. e.*, blood-vessels,

[1] See Hicks, *Encyc. Brit.*, Art. *Stoics.*

run to it from all parts of the body, and it has valves. In the shock of surprise or in a fit of passion it contracts, in good-humor it dilates. The lungs also are affected in outbursts of anger, and there is a rush of heat and humors to the head. In joy and grief the whole body is perturbed.[1] These observations do not, to be sure, carry us very far, but they mark a beginning in the scientific study of the organic changes and external expressions of emotions, the analysis and interpretation of which is now regarded as one of the central problems of affective psychology.

The incidental consideration of pleasure, pain and emotion noted so far is connected mainly with physical speculation and medical theory and practice. In the fifth century B.C. it is stimulated and accentuated by the new interest in the moral life. Here the influence of Socrates and the Sophists was great, but indirect. A Prodicus can admirably portray the wretchedness of a life devoted to sensual pleasure, while Callicles and Thrasymachus defend it as good;[2] but on neither side, apparently, is any effort made to elucidate the nature and conditions of pleasure. Thrasymachus is reported to have developed rules for acting upon the feelings of an audience; but, as Plato remarks, neither he nor any other Sophist deems it necessary to lay a deeper foundation for the art in logic and psychology.[3] Socrates, on the traditional view of his teaching, seems not to have gone much farther. He too has no definite theory of pleasure. If he had carried out his ethical doctrine and determined more precisely the relations of pleasure, utility and good, the three chief ingredients in his conception of happiness, he would no doubt have been led to a more constructive theory of pleasure. The defect in his psychology is thus intimatley connected with the undeveloped character of his ethics. The psychological interest which attaches to many of his sayings about pleasure and the feelings incident to the manner and temper of one's life, he himself seems not to have noticed.[4] The decisive step was taken when his disciples, Antisthenes and Aristippus, developed into a sharp

[1] Hipp., *The Sacred Disease*, Works, II, p. 856f.

[2] Xen., *Mem.*, II, i, 21ff.; Plato, *Rep.* and *Gorg.*

[3] Plato, *Phædr.*, 267 C.

[4] See, *e. g.*, Xen., *Mem.*, II, 1, 18ff., IV, 5, 9–11.

antithesis of theory the elements in the moral ideal which he had managed practically to combine. With the denial, on the one hand, that pleasure was good at all, but rather an evil, and the affirmation, on the other, that it was the sole ultimate good, it became necessary to consider and define with greater accuracy than heretofore the nature, conditions and effects of pleasure and pain, an enquiry which the controversy over hedonism has kept alive ever since.

The Cynics regarded pleasure as negative, the negation or cessation of pain; they adopted and universalized the idea suggested by Anaxagoras, and soon to be taken up in a qualified form by Plato, that the pleasures of sense involve antecedent pains. Some even denied the reality of pleasure and characterized it as an illusory appearance.[1] This negative conception the Cyrenaics emphatically repudiated. The absence or removal of pain, they said, is not itself pleasure, nor is the absence of pleasure pain, but both states are positive. These states are not, indeed, to be regarded as fixed, stable and immutable realities; they consist essentially in a process or movement. Pleasure is a smooth or gentle movement; pain is a movement harsh or rough. The intermediate state, in which there is neither pain nor pleasure, is one of rest, or of motion too slight to be perceived.[2] Even pleasure, to be felt, requires a certain degree of intensity. Accordingly, the younger Aristippus, grandson of the founder of the school, compared the state in which we feel pain to a storm at sea, that in which we feel pleasure to a gentle undulation, pleasure being also likened to a favoring breeze, and that in which we feel neither pleasure nor pain to a calm, and this threefold division, expressed in similar metaphors, is ascribed to all the school.[3] Pleasure, moreover, they regarded as an affection of the body (*τοῦ σώματος, τῆς σάρκος*)[4], and probably as an index of normal

[1] Diogenes Laertius, IX, 101. According to Diogenes (VI, 3) Antisthenes went so far as to say that he would rather be mad than pleased, but later Cynics admitted that some pleasure might be good, namely, *ἡδονὴ ἀμεταμέλητος*.

[2] Plato, *Phileb.*, 42 E; 53 C; 54 D; Arist., *Eth. Nic.*, VII, 12, 115 2b 12. 1153 a 13; Diog. L., 85–90. *Cf.* Zeller, *op. cit.*, p. 353 n.

[3] Euseb., *Præp. evang.*, XIV, 18; Sext. Empir., *adv. math.*, VII, 199.

[4] Sext. Empir., *Hypot. Pyrrh.*, I, 215.

organic conditions.[1] At any rate, they stoutly maintained that pleasure, even though arising from the most unbecoming causes, is always good, and pain evil, since, apart from perversion (διαστροφή), every man involuntarily, by a natural instinct (απροαιρητός), pursues and rests satisfied in the one and seeks escape from and avoids the other. They denied that pleasure is caused by past or anticipated good fortune, for the mind's movement, they said, is terminated by time, meaning, apparently, that it is always a temporally present fact. Nevertheless, they admitted other than the immediate sensation in its production, otherwise we should be unable to account for the fact that we get pleasure from the representation of grief, but not when we see it in real life. And they acknowledged the existence of ideal pleasures, such as that which a man takes in the prosperity of his country, or in his own.[2] But how in detail they connected these various denials, admissions and requirements, is not clear. In any event, since all pleasure is bodily, the distinction between bodily and ideal pleasures is only logical; qualitatively, pleasure is always one and the same.

We at length reach Plato, who here as elsewhere largely reflects the opinions of his predecessors, in whom the streams of tendency from both the physical and the ethical philosophers meet and blend, who carries forward and in a measure completes their work, who prepares the way for the ampler investigations of Aristotle, and who, by the distinctions and points of view which he himself develops, determines to a large extent, positively and negatively, both the thought of Aristotle on this subject and that of many succeeding generations. The question in which he is primarily interested is the relation of pleasure to good, its place in an ideal scheme of life; it is as contributory to this that he undertakes a thorough examination of its origin and nature. In addition, he touches at various points on other problems of the

[1] γένεσις εἰς φύσιν αἰσθητήν, Arist., *Eth. Nic.*, VII, 12,115 2 b 12. Lafontaine observes (*Le plaisir d' après Platon et Aristote*, p. 50. 1902) that the Cyrenaic definitions of pleasure and pain indicate only the intimate nature of the process in each and must not be taken to mean that the one is according to nature and the other contrary. The conceptions, however, are nearly related and the evidence suggests that the Cyrenaics held both. See Zeller, *l. c.*

[2] Diog. L., II, 88–90.

affective life; one has only to recall his masterly descriptions of the various forms of the passion of love in the *Phædrus* and the *Symposium*. And he relates the affections not only to ethical and metaphysical interests, but also, in part, quite definitely, to their bodily conditions.

On the general question of the relation of pleasure and good—to speak of this in passing—Plato's accounts vary. In the *Protagoras* the Socrates of the Dialogue assumes as the basis of his argument that all actions are to be regarded as honorable and useful the tendency of which is to make life pleasant and painless, or, expressed bluntly, "that the pleasant is the good and the painful evil."[1] Since no man voluntarily chooses evil, all that appears necessary to the conduct of life is the art, based on knowledge, of calculating and weighing different pleasures and pleasures as against pains, so as to determine in what course of action lies the greatest amount of pleasure. In the *Gorgias*, on the other hand, the pleasant and the good are sharply contrasted, and the advocate of pleasure being forced to admit a distinction between good pleasures and bad, the conclusion is drawn that pleasure, like everything else, is to be sought for the sake of good, and not good for the sake of pleasure, pleasure, like its opposite pain, being in itself considered ethically indifferent.[2] In the *Republic*, and still more definitely in the *Philebus*, distinctions are drawn which lead to the inclusion of pleasure, qualified as to its kinds, as an essential element in the good. The highest form of life is here represented as one in which wisdom, pleasure and truth are symmetrically combined, the defining principle of symmetry or order being that which renders the mixture both virtuous and beautiful.[3] These differences of representation are largely explicable by reference to the aims of the respective dialogues, the nature of the opposing contentions, and the characters of the persons with whom the arguments are supposed to be carried on. They must not be exaggerated. It might even perhaps be shown, with due allowance for difference of emphasis, that Plato's doctrine concerning the relation of pleasure and good is substantially the

[1] *Prot.*, 358.
[2] *Gorg.*, 477f.; 499 B ff.
[3] *Phileb.*, 64f.

same throughout.[1] They point, however, to a development in the conception of pleasure as it appears in the analysis of its nature, kinds and conditions in the later dialogues. To this we now turn.

The discussion of pleasure in the *Philebus* begins with the assertion of the common-sense view that pleasure is not one, but manifold; in other words, that there are various sorts of pleasure or that pleasure is of too ambiguous a nature to be determined as good, since it is experienced alike by the temperate and the intemperate, by the wise man and by the fool. This view, which strikes at the root of hedonism, the dialogue seeks ultimately to define and defend. It is objected—and the objection expresses the "scientific" doctrine of the Cyrenaics—that the various pleasures do not differ as pleasures, but only in respect of their sources. Instead of meeting this objection directly by appeal to experience—and how difficult it is to reach a decision on this ground alone is evident from the fact that psychologists are even to-day divided in opinion on the subject—Plato has recourse, in the first instance, to logic and dialectic. We must not, he says in effect, be misled by the use of a common name. We speak, for example, of "science," yet nobody would claim that one science is exactly like another. And the same may be true of pleasure. We need, he says, to consider the relation of the one and the many not only in the realm of sensible things, but also in the realm of ideas, and this theme he proceeds to develop in some detail.[2]

The ground being thus cleared, a framework is furnished for the positive construction in a classification of all existents into four divisions: (1) the indeterminate (ἄπειρον); (2) the deter-

[1] See E. Friedrichs, *Platons Lehre von der Lust im Gorgias und Philebus*, 1890.

[2] *Phileb.*, 12–16. It should be noted that the logical and metaphysical interest of the discussion of the relations of Ideas in the latter part of this section is entirely subordinate to the purpose of indicating the necessity of a classification of pleasures and a division of pleasure into its kinds. This disposes of Grote's criticism, *Plato*, II, p. 561, that the main points raised are untouched by the explanation, a criticism, moreover, which rests on the vulgar interpretation of the Platonic Idea as a sort of metaphysical entity on all fours with a sensible 'thing,' instead of what it really is, the postulated objective of a perfect scientific definition, such as is symbolized, *e. g.*, in the mathematical formula which defines the character of a curve and which is realized in every instance of the curve's construction.

minant (πέρας); (3) the union of the two; and (4) the cause of the union. Pleasure, and with it pain, as something indefinitely capable of more and less, is placed in the first or lowest class, as mind or reason is placed in the highest; but with respect to their origin both pleasure and pain are assigned to the third class. In other words, while it is impossible to ascribe a positive character to these quantitatively indefinite affections in themselves, or, as we are now accustomed to say, they cannot be defined, but only directly experienced, we are able to do so if we look to the way in which they are generated. What, then, from this point of view are pleasure and pain? Plato answers: pain is the destroying, or breaking-up, of the natural union of the determinant and indeterminate factors in the healthy organism, and pleasure is the process of its restoration; or, in simpler terms, pain is due to the dissolution and pleasure to the restoration of the natural organic harmony.[1] Two things in this definition are especially to be noted. First, pleasure and pain are, or originate in, processes and, indeed, bodily processes.[2] Where there is no process of dissolution or restoration, or where the changes are too slight or too gradual to be noticed, the state is neutral.[3] This is the Cyrenaic element in the doctrine; the affections are recognized as bodily processes and a neutral state is distinguished along with pleasure and pain. The conception of pleasure as a process or movement towards an end is later used as an argument against hedonism, which regards it as the supreme end, Plato sarcastically remarking that the author of the definition was "clearly one who laughs at the notion of pleasure being a good." The second thing to note is that the definition appears to make pain a condition of pleasure. This is the Cynic element.[4]

The doctrine is further developed in the *Timæus*. There we are

[1] *Phileb.*, 31 E ff.; cf. 25 E f.; *Cratyl.*, 419 C.

[2] Plato's language is inexact; the conscious 'feeling' (αἴσθησις; see Beare, *Greek Theories of Elementary Cognition*, p. 212) of pleasure or pain is in the soul. Bodily affections, to be felt, must be propagated to the mind (φρόνιμον, *Tim.* 64 B) or soul (μέχρι τῆς ψυχῆς, *Laws*, 673 A). *Cf. Phileb.*, 33 D; *Rep.* 462 C, 584 C.

[3] *Phileb.*, 32 E, 43 C.

[4] Plato repeatedly remarks on the close connection of pleasure with pain: two bodies with a single head, *Phædo*, 60 B; bodily pleasures almost always conditioned by antecedent pains, *Phædr.*, 258 E. *Cf. Rep.*, IX, 583 B ff.

told that pleasure and pain must be conceived as follows. "An impression produced in us contrary to nature and violent, if sudden, is painful; and, again, the sudden return to nature is pleasant; but a gentle and gradual return is imperceptible, and *vice versa*." Here the suddenness and violence of the excitement are emphasized. If the impression is produced easily, no affection results; Plato cites in illustration the visual stream (ὄψις, ὄψεως ῥεῦμα), which, according to his theory of vision, is a sensitive emanation of the subtlest and most mobile particles, and this, he says, may be cut or burned without discomfort, nor is there any pleasure in its return to the natural state. The affections, therefore, have no essential connection with the acuteness of perception. A certain resistance is demanded requiring a certain appreciable amount of force to overcome it. This leads to an explicit qualification of the doctrine that pleasure is preceded by pain. If the "withdrawings and emptyings" are too gradual to be noticed, while the corresponding replenishments are great and sudden, we are sensible of the pleasure without being sensible of antecedent pain; Plato finds this illustrated by sweet smells. The opposite case of sudden change with gradual and difficult return to the normal, is exemplified by the sheer pains of bodily wounds.[1] A little further on he adopts the general and commonly accepted thesis that what is contrary to nature is painful and what is according to nature is pleasant, using the principle to explain the alleged pleasurableness—not, be it noted, the mere painlessness—of death from old age, as contrasted with its painfulness when due to accident or disease,[2] an evident departure from the doctrine that pleasure is due to organic replenishment.

Returning to the *Philebus* we find that the above account applies directly only to bodily pleasures and pains. But there is another kind of affection which is only of the soul and which originates in ideational processes. Such, *e. g.*, are the pleasures of remembering and of anticipating pleasure.[3] The question

[1] *Tim.*, 64 f.

[2] *Ib.*, 81 E.

[3] *Phileb.*, 32 B f. As already pointed out, the 'seat' of *all* the affections as consciously experienced is, for Plato, the soul. Bodily and mental pleasures and

then arises, how far does the previous account, especially that part of it which conceives of pleasure as a process of restoration of disturbed equilibrium, hold of them? Now Plato considers the description entirely applicable so far as the pleasure is derived from the satisfaction of desire. For desire, he says, implies want and its satisfaction, replenishment, and the one is admittedly painful, the other pleasant. If the person, while actually suffering, calls to mind past pleasures which, if present, would afford relief, his state may be described either as one of mixed pleasure and pain, or of a double pain, according as he has the sure hope of satisfied relief or is in despair.[1] On the other hand, apart from desire or bodily disturbance, mental pleasures and pains are said to be 'pure,' *i. e.*, there is no admixture of one with the other, neither is conditioned on the other.[2] Here it is difficult to see how the conception of pleasure as replenishment would apply, and Plato does not elucidate the point.

The distinction of pure pleasure and pleasure mixed with pain is forthwith taken up into that of true and false.[3] This is an important distinction in Plato's argument, but one of questionable psychological value. Those pleasures and pains are characterized as false which are wrongly judged in respect to their objects, their quality and amount, or their intrinsic constitution. In the first case the feeling is regarded as infected with the falsity of the opinion concerning its object; in the second, the illusions are analogous to those arising in sense-perception, the feelings being viewed at different distances, in different perspectives and being subject to all the modifying effects of comparison; in the third, the pleasures are false because they are not pure, but are mixed with, or conditioned on, pain. "Mixed" pleasures,

pains are distinguished with reference to their immediate origin, the latter being regarded as independent of the body. *Cf.* P. Shorey, *The Unity of Plato's Thought*, p. 46.

[1] *Ib.*, 36. The conditions might be variously complicated. Grote, *op. cit.*, II, p. 569 n., gives the case in which, while tasting a pleasure, we have the desire and sure hope of its continuance, and says that here, instead of a combination of pleasure and pain or of two pains, we have a combination of pleasures. The question turns in part on the affective coloring of desire; Plato too readily assumes its universal unpleasantness.

[2] *Ib.*, 32 C.

[3] *Ib.*, 36 C ff.

accordingly, in this reference, are a species of "false" pleasures. It is on these mixed pleasures that, in this connection, Plato particularly dwells; for they include the typical sensual pleasures, which, as the most intense, hedonism, in its extreme form, commends. Plato will not go so far in his opposition as to say that such pleasures are merely negative. He adopts rather, as we have seen, the Cyrenaic view that pleasure and pain are both movements, the absence of either of which, and even their presence in a slight degree, would be practically neutral. But the followers of Antisthenes, he thinks, discerned a great truth in finding in these intensest of physical pleasures the evidence of a diseased condition of both body and soul. The fact on which he here insists, however, is that these morbid pleasures are of a mixed character, a blending, and oftentimes a very subtle blending, of pleasure and pain. But they are not the only mixed pleasures. Plato enumerates three classes of such pleasures: (1) those of the body only, as relief of itching by scratching; (2) those in which affections of the body and the mind are combined, such as bodily pains accompanied by the hope of relief; and (3) those of the mind only, as in anger, fear, desire, sorrow, love, emula ion, *malin* (*φθόνος*), and the like. Over against these are set three classes of pure and true pleasures, namely, (1) those of simple qualities absolutely beautiful, such as straight lines and circles, pure elementary colors, smooth and clear sounds, sweet tastes; (2) those of an analogous sort unattended by pain, however and wherever experienced; and (3) the pleasures of knowledge (*τὰς περὶ τὰ μαθήματα*). As purity is a quality independent of intensity, Plato concludes that "a small pleasure or a small amount of pleasure, if pure and unalloyed with pain, is always pleasanter as well as truer and fairer than a great pleasure or a great amount of pleasure of another kind."[1]

Incidentally in illustrating mixed pleasures by the feelings

[1] *Phileb.*, 51ff. Although (1) and (2) seem to be explicitly distinguished as "two kinds," to which the pleasures of knowledge are added (51 E f.), Plato's illustrations refer only to the pure pleasures of sense and the pure pleasures of the mind. Complex æsthetic pleasures are excluded (51 C) and, strange to say, no mention is made here of those pure moral pleasures which are said later (63 E) to "accompany health and temperance, and which every virtue, like a goddess, has in her train."

associated with tragedy and comedy, Plato makes what is probably the first recorded attempt by a European writer at a psychology of the comic.[1] A man is ridiculous, he explains, when, through ignorance, he entertains a false conceit of his wealth, beauty or wisdom, and is not powerful enough to be dangerous. If he is powerful his ignorance is an occasion of hatred and dread. But if he is harmless, his friends take a malicious pleasure in laughing at him; they express the despite or offence (*φθόνος*, *malin*) excited by his pretensions in laughter, the pleasure of which, accordingly, in Plato's view arises from and is combined with pain.[2]

In the *Republic* we meet with the same distinctions of pure and mixed and of true and false pleasures as in the *Philebus*, with, if possible, even greater emphasis on the superior truth and purity of the "higher" pleasures, though here too there is incidental recognition of pure pleasures of sense. The superiority of the mental and moral pleasures is here argued on the metaphysical principle that what is filled with the more real being is more really filled than what is filled with the less.[3] Pleasure, thus, like color, is regarded as having degrees of saturation. Now these distinctions are for Plato fundamental. As long as all pleasure is held to be identical in quality, the pleasure of thinking will not differ, except possibly in amount, from the pleasure of drinking, and the question as to which type of life is the pleasantest, the question which interests Plato, is either meaningless or incapable of any but an individual solution. Plato himself appeals on occasion to the judgment of the man who has experienced the various kinds, that is, to the philosopher. But he seeks also to determine it on general principles. And while

[1] *Loc. cit.*, 48 D ff.

[2] Grote is right (*op. cit.*, II, p. 574 n.) in suggesting that *φθόνος* here can hardly mean 'envy' or 'jealousy' in our sense of the terms. But we have only to turn to Aristotle's definition of it, *Rhet.*, II, 10, 1387 b 22, as pain at the sight of the prosperity of others resembling ourselves solely because of their prosperity, to see that, apart from any personal desire for possession, the word could have the wider meaning of displeasure or offence at the spectacle of others' advantages. What Plato fails to explain is why we should take offence at the pretension of advantages which we do not believe to exist, and, still more, why that which offends us should, nevertheless, excite pleasure.

[3] *Rep.* IX, 583ff., esp. 585 D.

his argument is partly metaphysical, it rests for the main part on the sound psychological presumption, that an item of consciousness is qualified by its relations to other items of consciousness and by the whole content and context of its appearance. Hence his discussion brings to light a number of important psychological facts, such as the influence of pleasure and pain on one another, their co-existence in the same state of consciousness, the various effects of their comparison and contrast, and their relations to past and future time. He proves that unless all such facts are taken into consideration, we are subject to mistake in judging the experience and that, in this sense, the pleasure may be said to be illusory. But he does not prove that the pleasure as experienced does not exist as a psychological fact or is not, as pleasure, precisely what it is felt to be. Hence the distinctions, which seemed to him so important, could not be maintained. Aristotle continued to speak of pure and true pleasures, but in a different sense. Plato's doctrine that some pleasures were essentially pleasant, while others, in spite of the evidence of feeling, were only illusory appearances of pleasure, was criticized and rejected by Theophrastus and, although defended by the Neoplatonists, survives only as its terms are reflected in the estimative vocabulary of religion and ethics.[1]

To sum up. Plato's doctrine of pleasure and pain was developed in relation to the ethical controversies of his time and conditioned by current conceptions as well as by his whole ethical and metaphysical philosophy. He inquires into the nature of pleasure and pain with more thoroughness than his predecessors, but his analyses and inductions are imperfect and his conclusions inconsistent. Unable to accept the extreme Cynic view that pleasure is only negative, he adopts the Cyrenaic opinion that both pleasure and pain are motions or transitional processes to be distinguished from the neutral state in which they are absent; but he advances beyond the crude conceptions of them as smooth and rough by relating them more definitely to the conception of organic harmony. Pain is the process of the dissolution of this

[1] For a modern defence of Plato's doctrine, see H. H. Joachim, *The Platonic Distinction between 'True' and 'False' Pleasures and Pains*, *Philos. Rev.*, 20, 471–497, Sept., 1911.

harmony, pleasure the process of its restoration; the perfect, undisturbed harmony itself is neutral. Some support for this view could be found in the broad facts of organic experience, especially the facts of nutrition and bodily pain, but it is hardly a mistake to suppose that it commended itself to Plato by its conformity to some of his cherished ideals. The ideal for him was everywhere and always perfect harmony, and the life which frequently appeals to him as best is the life of complete calm, neutral as regards both joy and sorrow. This he represents as the condition of the gods, and a similar state, he says, may be maintained by one who chooses the godlike life of wisdom.[1] But the theory relates, in the first instance, only to bodily pleasures and pains, whereas, according to Plato, there are some affections which are of the mind only, apart from the body. Moreover it implies, or seems to imply, that pleasure is conditioned on antecedent pain, and this Plato sees cannot be universally maintained even in the case of bodily pleasures. Finally, in the interests of ethics itself he finds it important to show that the life of wisdom is, after all, not neutral, but the pleasantest life of all. These various facts and demands require a modification of the theory. The case of painless bodily pleasures is made to conform to the hypothesis by assuming that there is an antecedent process of dissolution, but that it is too slight or too gradual to be perceived. The conditions of pleasure and pain are seen to be complicated. These affections depend not simply on phenomena of exhaustion and replenishment, but on the intensity and rapidity of the process and on the amount of resistance offered in either direction. In one case, indeed, that of pleasurable death from old age, the mere naturalness of the process is held to be a sufficient explanation of the pleasure, a return to normal organic conditions being here evidently excluded. As to mental pleasures, some, those, namely, which follow the satisfaction of desire, are referred to the principle of want and replenishment, but this, except in so far as bodily processes are involved, is only an analogy. The pure mental pleasures which are not based either on a bodily process of restoration to organic harmony or on

[1] *Phileb.*, 32 E.

the satisfaction of a want require, in order to be even remotely connected with the theory, the extension of the analogy beyond all bounds of psychology, an extension which Plato makes in representing the pleasures of knowledge as due to the "filling" of the soul with reality.

The more complex affections, the emotions and passions, are regarded in part as modifications of pleasure and pain, and in part as distinct.[1] To the immortal soul, Nous or reason, located in the head, without, however being made dependent on the functions of the brain, Plato assigns its own spiritual impulses and enjoyments, in particular the philosophical Eros and intellectual love of beauty, the stages in the development of which he has described in the language of genius in the Diotima passage of the *Symposium*. The ordinary emotional excitements he connects with the mortal part of the soul distributed over the body; *θυμός*, that "part of the mortal soul which is endowed with courage and passion and loves contention," being placed in the chest, *τὸ ἐπιθυμητικόν*, the faculty of the bodily appetites, below the midriff.[2] We have here the basis of the famous mediaeval classification of the "irascible" and the "concupiscible" affections. This mortal soul is "subject to terrible and irresistible affections,"—pleasure and pain, rashness and fear, anger and hope and all-daring love.[3] The awakening of this love in the perception of beauty, the onrush of bodily appetite, the violent struggle of the latter against the resistance of the higher impulses, the part played by reason in calling to mind its ideals, the gradual subsidence of the passion and its transformation into a love of benevolent affection exciting a responsive love, with mutual delight in the presence of the beloved and longing in absence: all this is vividly portrayed in the great myth of the *Phædrus*. In the *Timæus* these and similar perturbations are connected in the spirit, and doubtless under the influence of, Hippocrates,[4] with organic disturbances, particularly in the heart, the lungs,

[1] In *Phileb.* 32 B f., 39 C, joy and hope are species of pleasure; grief and fear, of pain,—a grouping in which Siebeck, *Gesch. d. Psych.*, I, p. 232, finds the germ of the later fourfold classification of the emotions.

[2] *Tim.*, 69f.

[3] *Tim.*, 69f.

[4] See Poschenrieder, *op. cit.*

the liver and the various fluids and more mobile substances of the body. Thus the heart, excited by the vital heat, palpitates in fear and is turgid in anger; for which reason, says Plato, the gods placed about the heart the soft, bloodless and spongy lungs in order that, when passion was rife, the heart might beat against a yielding body and get cooled.[1] In unregulated appetite the bitter gall is diffused through the liver, producing a wrinkling and roughening of its surfaces, twisting and contorting its lobes, constricting and stopping its passages, the whole being attended with pain and loathing, whereas when reason controls, it makes use of the liver's natural sweetness to render the part of the soul there resident happy and cheerful.[2] Disorders in the distribution and consistency of the fluids and like mobile substances also engender morbid affections. The intemperance of the passion of love, for example, is declared to be "a disease of the soul due to the moisture and fluidity produced in one of the elements by the loose consistency of the bones," Plato's idea being, apparently, that by reason of this "looseness" the semen, which, according to him, is formed in the spinal marrow, is not properly held in check. Again, infinite varieties of ill-temper, melan choly, rashness and cowardice, as well as of disturbances in the intellectual functions, are produced by the wandering through the body of "acid and briny phlegm and other bitter and bilious humors," whose vapors thus blend with the motions of the soul.[3] But not only can the body affect the soul, the soul also affects the body; excited arguments produce rheums, an impassioned soul, more powerful than the body, convulses and fills with disorder the whole nature of man. A harmonious proportion between soul and body is the foundation principle of health and sanity.[4]

No one will be deceived as to the significance of these beginnings of a scientific treatment of the emotions. Their outlines are vague. They rest on no such independent examination, no such attempted isolation and classification of the phenomena as

[1] *Tim.*, 70 C.
[2] *Ib.*, 71.
[3] *Ib.*, 86f.; *cf. Phileb.* 42.
[4] *Ib.*, 87ff.

Plato attempted in the case of pleasure. He could describe the play of emotions in individual characters in particular situations with the skill of a supreme artist. But what he has to say on emotions in general is fragmentary and on its physiological side, to all appearance, a reflection of current medical opinion on the nature of disease. Such expression as he gives of the best scientific thought of his time on this subject only makes manifest the necessity for fresh beginnings and further developments. These we have in Aristotle, who not only gives us a new theory of pleasure, but also the first connected and relatively systematic study of the emotions and passions.

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## THEISM AS AN INTELLECTUAL POLITY.

THIS essay is the residuum of a number of abortive attempts to outline a sort of generalized *Mécanique Céleste*.

Incitations to such attempts have come from a number of sources, in some cases there are definite causes of failure, but for the criticism of the attempt in its generality, I depend on what I have formulated as the 'Principle of Ineffectuality.'

I mention some of the starting points because they contain and explain various suggestions of which I have made use. St. Thomas Aquinas's "Gravitas est quidam amor naturalis," Dante's "Love that moves the sun and the other stars." From Herbart the idea of ideas as attracting, repelling, combining, cohering, and as having inertia, mass, momentum—this suggests paralleling the molecular and molar parts of my *mécanique* to the molecular and molar astronomies. Again it is a matter of the history of each one of our private worlds that it has been evolved from a primitive neutral continuum, in the course of which evolution, matter and mind, time and space, and their contents have become differentiated. This suggests beginning a synthetic Philosophy earlier than Herbert Spencer began his, so as to present the differentiation and coördinate evolution of matter and of mind in such a way as to homologate the more stable in the physical with the more satisfactory in the ideal order. Spinoza's *conatus* by which everything strives to maintain its being[1] will take the place in this philosophy of the persistence of force. Lastly, starting from the notion of a primitive, continuum, your mind and my mind will not appear to be the separate things they appear as to ossified common sense, nor will past and present (obtained as they are by a differentiation) be so sharply opposed.

I am accordingly going to take for granted that the hard, solipsistic, self-sufficient attitude of mind is wrong and that the sympathetic, receptive, docile, reverential attitude is right. The

[1] *Ethics*, Part III, Prop. 7.

beliefs or the unbeliefs which a man finds in possession in the time and place in which he happens to be born have a *prima facie* claim on his allegiance. There is a duty of loyalty to time as well as to place. The *Laudator temporis acti* is first cousin to the 'friend of every country but his own.' These loyalties enlarge the mind more than they burden it, they make us beneficiaries of a larger experience and citizens of an ampler world.

This is not to compromise the rights of reason, it is rather to implement these with a language and an imagery. Also, what I urge the claims of is not a subsumptive syllogistic appeal to the '*locus ab auctoritate*,' but a yielding by way of sympathetic identification of the individual mind to the common mind. My ultimate ground of justification—one deeply woven into the texture of my thesis—is that the logical center of a man's mind is not coincident with the center of his particular self-consciousness.

*Levels of Apperception* (these may also be called intensities of intellectual potential or planes of mind).

1. At some times one can grasp more distinctions within the unity of an idea than at other times. Sometimes one knows what Plato meant by calling the Philosopher "spectator of all time and of all existence," but other times one shrinks into the dull, hopeless, momentary, apathetic life of an animal. Sometimes one can take in a theory at a glance in, as it seems, all its developments and ramifications. At other times one can in a sense understand it sentence by sentence, but can retain no synthetic view of it as a whole.

2. It follows that the same symbolism (verbal or mental imagery) can for one man at one time support a greater, in the sense of a more complex, richer, world than for another man, or for the same man at another time. Thus for instance, for a religious genius, the judgment of 'God is love,' integrated in the concept 'God-as-love,' may sustain a world within which the 'real' world of mechanistic natural science lies 'like a foolish wilful dream;' for another man who also, as he could claim, understands and believes this dogma, it may be just a curious scrap of information altogether on a level with 'sugar is white.'

Therefore I lay it down that (*a*) *the meaning of a proposition is the content of the world it sustains*;[1] (*b*) a proposition is truer in proportion as it sustains a greater world; (*c*) two or more propositions which (or *so far as* they) sustain the same world are the same proposition expressed in different notations; (*d*) the truest creed for the standard human mind will be that symbolism which by reason of its co-naturality or congruity with the natural nisus of the human mind enables it to sustain the greatest world with the least expenditure out of its limited fund of intellectual force.[2] Such a creed I contend is that which thinks the Ultimate under the form of spirit, conceived as the aseity towards which the world of nature and of the society of men converges as towards its ideal limit in proportion as it is made perfect, *i. e.*, developed ordinately in knowledge, love, will, and all other characters.

*Levels of Apperception* are arrests in a continuum. There is therefore no special importance about distinguishing the stages. Spinoza's 'opinion,' 'reason,' 'intuition,' will serve all purposes of illustration. To illustrate the relation of the higher levels to the lower, compare the nature of knowledge to the artist's idea and the lower levels to less successful expressions of it, or compare with the progressive mastery of idea over matter as displayed in a series of flint implements arranged in order of date.

*Knowledge* I take to be a projection of the real in a special medium, namely, relativity. Reality is known so far as it is symbolized, *i. e.*, *re-presented* as a system of functions. 'That than which a greater cannot be conceived,' is a perfect system of unobstructed relativity.

*Desire and Action.*—We can only love and will according to our knowledge. Accordingly, the grades of love and will correspond with the grades of knowledge. When we know the particular, we love and will the particular, but in proportion as we rise in knowledge, we rise towards loving and willing *sub specie aeternitatis*. Neither can we truly know the eternal unless we, affected with

[1] *E. g.*, Heraclitus—"It is death to souls to become water" and many more dark sayings as explained in Burnet's *Early Greek Philosophy*.

[2] What we have to solve is a housewife's problem—to make a limited fund of intellectual force go as far as possible.

the appropriate forms of love and will, *love and will it*. This is not to compromise but to expand and realize knowledge.

*The Immediate or Datum* of each grade of knowledge is the summation of all lower grades. Thus each grade has its own proper and characteristic immediate. There is not one given world common to the man of science and the mystic, the saint, and the sensualist, the poet and the money grabber, except in so far as they participate in one mind. Knowledge, Love, and Will are coördinate forms of conation. Knowledge is cosmothetic. Love and Will are charged with inseparable knowledge and tend to expand into worlds of felicity and holiness. Purity of heart, clarity of head, rectitude of will, tend to converge or redintegrate because they are all modes of 'the infinite intellect of God,' hence it is that the 'pure in heart shall see God,' and that 'qui *facit* veritatem venit ad lucem,' that 'the great Poets are the great Metaphysicians,'[1] that 'thoughts condense into purposes and purposes into acts.'

The identity of the subject depends on the identity of its world; so far as a man has more than one world he has more than one mind. So far as several men have the same world they have one mind. A mind is a complex idea (or it may be a complex of ideas). Its activity is the activity of its ideas, its conation their conation. An idea is a menticule, *i. e.*, it is to mind as molecule is to body. It does not follow from this kind of complexity that either mind or body is not a true unity.

*Degradation* is the state of existence of contents which naturally belong to a higher apperceptive level when encysted in and invested with the form of immediacy proper to a lower level (*e. g.*, God = a thing). Take for illustration the case of a man who, really burning with earnestness and enthusiasm, has devoted himself to philosophy and has arrived at a certain insight into the nature of the universe. Then he will sustain a world at a certain level. Now suppose that owing to age or to some other cause he loses his enthusiasm,—then what were for him living

[1] I quote these for purposes of illustration, but I wish to avoid any suggestion tending towards the depreciation of mood and figure, system logic, dialectic, *in favor of* any brand of mysticism, or towards the heresy that opposes system and feeling, head and heart. Spinoza's *Ethics* is quick with emotion.

truths, apperceived in relation to the logical processes which support them and informed by the co-natural love and will, will become mere dead isolated results stranded in memory, and these are no more identical with his former insights than the dead body is identical with the living one.

*Distraction* (or interference).—According to the Roman Law "unus homo sustinet plures personas," or again Spinoza, "Idea quæ esse formale humanae mentis constituit non est simplex sed ex plurimis ideis composita."[1] Because of distraction, the mind of a man is more or less like the mind of a committee with the same endless opportunities for cross purposes and misunderstandings. For instance, a man of science in his religious personality may misunderstand and then deny his scientific ideas to protect his religious or political ideas.[2] A man does not possess his mind entire—he is like the Wizard's apprentice using the spell. The truths of one impersonation are incantations to another. This distracted character can be to some extent ignored but it can never be obliterated.

*Principle of Autonomy* (or of Incommensurability).—The continuity of the mind of man or a man, according to the view I have taken of it, is like that of a stream, on the surface of and within the depths of which are eddies, backwaters, vortices, ripples, each of which has some degree of separate continuity and self-containedness. Again the main stream is in one place, on one cross section, flowing faster, in another slower, in one place smoothly, in another rippled, here a streak of clear and there a streak of discolored water. The flowing of these minor streams corresponds in my simile to the logical expansion of individual minds or of menticules, and by the principle of Autonomy I mean that an idea is true in so far as it is a genuine logical expansion and that it ought not to be (indeed cannot be) judged in respect of its conformity with either other ideas or experiences. Its meaning is its logical expansion, it speaks its own untranslatable language. There is a sense surely in which we may use

[1] *Ethics*, Part II, Prop. XV.

[2] Goldsmith asked to explain his own line "alone, unfriended, melancholy, slow," did it so haltingly that he was corrected by Dr. Johnson with a "No Sir, it means," etc.

(though not necessarily in his meaning) Spinoza's words and say "He who has a true idea knows that he has it," *e. g., what I mean* by the existence of God or free will or the heinousness of sin, or love as stronger than death, or the glory of science, or of democracy, is a fact of my experience as much as the existence of pain or pleasure. Moreover, it is a fact which cannot be translated into any other terms.[1] What I suppose throughout is that an idea has a natural tendency to expand itself towards reality (which is the same thing as to rise in apperceptive level), a tendency comparable to the tendency of a seed to grow into a plant, the truth of an idea is what it expands into, and *if* the process which connects the initial idea and the expanded idea is an untainted logical expansion, *then* the expanded idea solves the problem which the initial idea sets and this solution is not subject to review.

*Principle of Irreplaceability* (irreplaceable hæcceity).—By this I mean that no symbol can be an adequate representative plenipotentiary of the thing symbolized, and in particular, that the ideal experiment of inference, though it generates reality, cannot bind any other reality than what it generates. Just as the projection of the surface of a sphere on to a plane involves distortion and falsification, so all representation involves falsification *because of the reaction of the new medium on what is transferred to it.*

*Principle of Convergence.*[2]—This is the half truth complementary to the Principle of Irreplaceability. By it I mean that the higher apperceptive level tends to contain the lower. I say 'tends to contain' because so far as the higher level is one of two of which the other is the lower, they are two of a class and each counts as one according to the Principle of Irreplaceability. I call it the Principle of Convergence because according to it the solipsistic truths of the Principle of Autonomy, according as they

[1] *Vide* Principle of Irreplaceability below.

[2] "Quæ ita continuo convergunt ut citra infinitatem distent dato minus, ea in infinitum continuata censenda sunt æquilia." Quoted from Wallis's *Algebra* by Gratry, *Logique*, Vol. 1, p. 46. It is by the principle of convergence that we are able to transcend solipsism or animal automatism. Other men behave more as I behave in proportion as I correct for differences between their situations and mine. Correspondence of structure carried to the limit equals identity of content.

are raised in apperceptive level, converge together, each tends to become all the others without going beyond the limits of itself.

The Principles of Irreplaceability and of Convergence are related in this way. Begin from the denial of external relations (which like all truths is a half-truth[1] in the sense of being self transcendent, for we cannot deny the unmeaning), then this denial of external relations can be worked as it were from either end. John and Peter are both men. We can either take their common manhood and consider it as unifying their John-hood and Peter-hood which we then treat as moments or differences within the universal man, or we can take their difference and consider this as distracting their identity, *i. e.*, the common manhood of John and Peter can be taken up into two individual manhoods, man-John-hood and man-Peter-hood.

Action and re-action are equal and opposite; if John's manhood is something to him, he correlatively must be something to it. It can integrate him with, he equally can differentiate it from, Peter. It is as legitimate to regard John's manhood as a difference within the universal John-hood as to regard John as a difference within the universal manhood.

The Principle of Irreplaceability says John is just John and not Peter, and Peter is just Peter and not John. The Principle of Convergence says in so far as John is man and Peter is man, John is Peter and Peter is John.

*Principle of Ineffectuality.*[2]—I believe myself to have something

[1] Not more than *half* (or some other fraction) truths, but not less than half *truths*. Also the principle of ineffectuality is *correlated with our place in the universe*. It is a *significant*, not a *mere* ineffectuality.

[2] 1. What I infelicitously christen the Principle of (finite) Ineffectuality gives the inner reason why philosophy "beats in the void its luminous wings in vain." What promises to be the ascent of the mind to God proves to be its exhaustion into a bare identity. If sensations without conceptions are blind and conceptions without sensations are empty, it is clear that in so far as we cease to be blind we become empty and *vice versa*. The main suggestion of this essay is, to put it quite crudely, that there is a certain critical point of dialectic advance (the position of which is determined mainly by race experience) between pure sensation and pure conception at which the maximum noetic value is obtained. The real worlds of Democritus and Hume have meaning because sensation contains *nascent* ideas. The ideal worlds of Plato, Hegel, Spinoza have content because thought contains vestigial contingent matter. Each therefore profits by illicit and unacknowledged infiltrations. Between the two the Theistic world of Aristotle and of Christian Scho-

to contribute towards the solution of this ancient antinomy. If a principle applied to impossible conditions yields impossible results precisely because of the impossibility of the conditions, then, applied to possible conditions it will yield true results (*i. e.*, is true). If I had any mathematical knowledge I could perhaps illustrate this by constructing antinomies for dwellers in Flatland, and by them showing these antinomies to be nothing but the logical expansion of the initial impossibility of Flatland. If *posito impossible sequitur quodlibet*, then if '*quodlibet sequitur*' it is a proof that '*impossible ponitur.*'

If '*ab esse ad posse*' is a good process, so is '*a non posse ad non esse.*' If a mathematical formula is applied to impossible conditions it 'talks nonsense.' If our logic yields antinomies it is because it is applied to impossible conditions. That we really are, that we have true being and not a mere succadaneum of being, here is the impossible supposition which breaks the back of every inference so that in the universal disconnectedness '*sequitur quodlibet.*' If our equations talk nonsense it is because we refer them to an impossible origin—ourselves. '*Actio sequitur esse*'; 'to know we should have to *be* and then *we* should not exist.

Spinoza appears to me to be the thinker who has most closely appreciated this point of view.[1] His *Ethics* is, as I understand it, a large scale expansion of the view that the antinomies of our human thought are the projection of the antinomies of our human being. He tells us,[2] "Intellectus actu finitus aut actu

lasticism, in which God is neither *only* Cor Cordium nor *only* Rex Regum, yields the maximum of noetic satisfaction on the man Plane of Mind. But the sciousness of this world is *consequent on*, rather than a *consequence of*, the striving of reason.

2. I have no space in which to illustrate this principle, but I will allow myself to advance here that it necessitates the application of this same distinction between consequent and consequence to (*a*) any advance by way of inference—the premisses of a syllogism bring about, in this mind or that, but they never necessitate the conclusion; (*b*) any synthesis by way of judgment—any connection is synthetic in so far as it is loaded with irrelevancy.

$S$ is $P$ can always be analyzed into two concretions and an identity. $S = Ax$, $P = Ay$. $S$ is $P = Ax$ is $Ay$. Not identity *in* difference but identity *and* difference.

[1] The recurrent Quatenus . . . eatenus, *e. g.*, Mens nostra quatenus intelligit æternus cogitandi modus est.

[2] *Ethics*, Part 1, Prop. XXX.

infinitus Dei attributa Deique affectiones comprehendere debet et nihil aliud." For how can we comprehend the unintelligible? So far as we *want* to know we *lack* knowledge. So far as we *lack* knowledge we lack the conditions under which knowledge is attainable. Again Part II, XLIV, "De natura rationis non est res ut contingentes, sed ut necessarias contemplari;" therefore it is 'de natura rationis' not to be able to make an object of, nor therefore a problem of, nor therefore to find a solution for, 'our world' as such. When it has become intelligible it has ceased to be 'ours.' We cannot connect the problem and the solution together in one field of intellectual vision, because we cannot come within sight of the solution without *eo ipso* losing sight of the problem.

Other applications of the Principles of Irreplaceability, Autonomy and Convergence are such as these—I set them down at random merely to illustrate. That all abstraction or all representation involves some degree of falsification. That any philosophy in becoming consistent with itself becomes consistent with every other self-consistent philosophy. That any theory thought out to its last consequences becomes identical with the being of which it is the theory and clothed with all its affections (*i. e.*, facts and theory converge and at the limit become identical). That ideal representations, memories, or imaginations of actions or desires are not adequate to the corresponding realities; thus, for example, the student's imagination of a life of affairs which provides the matter for his philosophy of a life of affairs is schematic and inadequate, so that it is necessary to take part in any life in order to understand it. If the saint cuts off his right hand he must not expect to have it. So also the metaphysician's idea of the specialist's knowledge, the blind man's idea of color, are all improper or inadequate, not all to the same degree but all in the same way. If 'tout comprendre c'est tout pardonner,' it is precisely because 'comprendre c'est presque devenir complice.' To understand is to impersonate. To understand completely is to be identical with. No idea which is not extended into action and into conation can be the same as any idea which is so extended. The faith without works is

not the same as the faith with works for the works react on the faith. If the French and English language were each separately improved till each became identical with the perfect language (which could not be *a* language at all) they would in the end become, and in the process converge towards becoming, identical with each other.

If the geocentric and heliocentric astronomies were each refined upon till each saved all the phenomena, they would become identical—as indiscernibles. If materialism were thought out, the word 'matter' would in the end support the same world and *elicit the same emotions* as the words 'God' or 'the Absolute.' In proportion to rise of apperceptive level, the symbols employed tend to the position of becoming accidents, so accidental that they do not effectively exist as such. The system more and more determines and is less and less determined by its separate elements.[1] To illustrate this accidentality—If one man says that 'God is a person,' another that He is 'that than which no greater can be conceived,' another that He is the 'Shadow of a great Rock,' another that He is 'a Consuming Fire,'[2] all these men mean the same in so far as these propositions sustain the same world, *i. e.*, the same or tending towards sameness in logical structure, action-stimulus, affective-tone, scale of values. A materialist will not say, I believe in God, any more than an Englishman as such will say 'Credo in unum Deum,' but in proportion as each completes his world, their differences will tend towards becoming mere differences of notation. Remember, however, that *quite* the same thing cannot be expressed in two ways, differences are therefore never *mere* differences of mind language.

It is possible to say that theism is the real truth about the universe under the same sort of reserves as it is possible to say that red is the real color of a dress—that is, it is the index color, the color to standard eyes under standard conditions. Theism is the natural and best mind language for men because its symbolism is congruent with the natural nisus of the human intelligence towards substantiation and the best human experience is

[1] Finally it would cast off that vestigial remnant of negativity which makes it a *system*.

[2] See the Bible quotations in Berkeley's 'Siris.'

invested in it. Just so, color is the best expression of beauty for a painter, and sound for a musician. But for this individual man or that, a passage from theistic to pantheistic notation may mark an intellectual and moral advance, so also may a passage from thought to action or to the æsthetic or mystic attitude. And even in conduct the worse may be on the path between good and better. Suppose it is objected: The dress must have some one real color and there must be some one real truth about the universe whether we recognize it or not. I reply—The judgment 'the dress is red,' at the highest apperceptive level (*sub specie æternitatis*) involves and sustains all reality. It does not deny, but it implies the blueness of the object under certain conditions of light (specified exhaustively within the judgment).

So far as different men have different minds (and this is so the more, the lower the apperceptive level) no more than a blurred[1] generic truth known to all men is possible; but so far as men rise in apperceptive level they all tend to participate in one mind knowing one intelligible. Speaking formally, the Absolute can be conceived as God or as anything else whatever so long as the conception is under the form of aseity, because all conceptions and all things conceived, so far as under this form, are identical. But the third grade of knowledge (Spinoza's *scientia intuitiva*) is not an actual possession for man at any time, and though all conceptions converge *in this* and are therefore all equally true *at this* level, because at this level any truth sustains every truth, yet if we fall away from this level as we habitually must, the case is widely different. If I may speak for myself, my experience when I try to realize Mr. Bradley's or Spinoza's world is this—I can see that the main features and the scale of values correspond with the features and the scale of values of theistic reality, each with each, but I find the notation charged with misleading associations, through the impregnation of my mind by the common social mind.[2] For instance, I find the denial that the Absolute is personal obstinately striving to involve for me the denial that the more spiritual is the more real, or again, though

[1] 'All men' on this level have but a blurred generic *existence*.

[2] Therefore theological orthodoxy is, and ought to be, a science of case law and predecent, of adhesion to consecrated, and avoidance of contaminated, phrases.

I may understand what Spinoza meant to mean by denying 'intellect in act' of God (*i. e.*, as he explains he denies intellect in so far as it is not will, etc.), yet the moment I cease to devote my whole intellect to sustaining this conception, it tends to degrade into something *epistemologically equivalent to* 'God is material.'

A very pregnant saying of that acute philosophical thinker, the late W. K. Clifford, has always stuck in my memory. It runs somewhat as follows: "I am a dogmatic nihilist and shall say the brain is conscious if I like, and in doing so I am as ideal as possible. A true idealism does not need to be stated, and conversely an idealism which can be refuted by any significant collocation of words must have something wrong about it." It is plain, is it not, that a truth which is so true as this—'that it cannot be refuted by any significant collocation of words'—has over-shot the mark and is not significant, nor therefore true at all?

*To Sum Up.*—I agree that theism or any *system*[1] displays an instrumental character, but I do not agree that it involves a surrender of the rights of the intelligence to the heart or to desire. My position is rather this—That if one made a characteristic curve of the path of the human intelligence, then the ordinate of this curve giving the highest noetic value or the greatest amount of wisdom would be that drawn from the point on the base line marked, 'Theism.' I mean that the noetic ordinate values on either side of this point, that is, towards Pantheism on the one side, and towards Sensationalism on the other, shrink asymptotically towards zero.

At 'Theism' each factor of wisdom taken separately is not necessarily at a maximum for all men, in all moods, yet on the whole, and in the long run and for the typical mind at its habitual thought-action-conation level, their product is at maximum value.

In the earlier part of this paper, in dealing with the principle of

[1] Any *system*—see footnote on p. 498. (System is not yet purged of negativity or nonentity). I should like to say of Monism what Mr. Bradley says of Eclecticism: that for it "every truth is so true that any truth must be false." Who does not see that such a monism "inhuman, incompetent, impracticable" (Mr. Schiller) would sustain *more* truth if it grasped at *less*. I had some inclination to entitle this essay "Theism as a *Via Media*."

autonomy, I was led rather to dwell on what may be regarded as its sceptical side. But it has a positive side also, for it provides the formula by which we can protect the systematic synthesis of human history, human science, human aspiration, thought and experience (the content of which it entitles us to read into perfection) from attack from the outside.

If and in so far as we have, in union with the common social mind—the implementation of the word—been ordinately affected by all relevant considerations,—then the logical position we come to rest in, should be treated as final. It may not be the necessary synthesis, but it is the outstanding or surviving synthesis. On the other hand, the content of this synthesis as a whole is not commensurable in respect of certainty with that of any particular item of scientific or historical knowledge.[1]

GERALD CATOR.

LEITH, SCOTLAND.

[1] I think perhaps I can now give a more precise conception of the Curve of Noesis. Thus—Theism will be the characteristic immediate (p. 492) corresponding to the culmination of this curve when Reality is viewed in the medium of (*i. e.*, under the form or attribute of) totality. If any more restrictive form is applied, a corresponding variant of the immediate will result. (*E. g.*, Reality under the form of extension may appear as something equivalent to a closed mechanical system.) Thence while, as richer and more concrete, the world of theology will dominate (Principle of Convergence) the worlds of common sense and of the various special sciences, it will not (Principle of Irreplaceability) absorb them—they will each have a certain degree of autonomy. Therefore, the constitution of the sciences will be a sort of federal monarchy as contrasted with pragmatic anarchy on the one side, and monistic autocracy on the other. Correspondingly, in religion, on the man plane of mind we must compromise by dividing the responsibility for events between nature *and* God: but for God or for the Godlike it would be nature—*in* God.

As the human is to the divine type of intellection, so is an Aristotelian Pluralist Realism to a Platonist Monist Idealism. Atomism at one end and Monism at the other end of the dialectic scale enter our minds with a refraction which renders them false. Monarchical Theism is true for the human mind because it is correlative to the natural receptivity of the human mind.

# ON THE NATURE OF OUR KNOWLEGE OF THE PHYSICAL WORLD.[1]

WHAT I wish to do in the pages which follow is to make reasonably clear just what knowledge of the physical world should mean to one who maintains that it cannot be apprehended. My effort will be more an attempt at explication than at demonstration. In short, I shall concern myself primarily with the *implications* of principles and conclusions which I have elsewhere sought to establish in detail.

I am led to attempt such an explication of what human knowledge of the physical world should signify to one who has critically thought through the problem along realistic lines for two reasons: (1) because those who have confessed themselves attracted by the idea of a less direct realism—shall I say one giving more leeway and importance to the mind?—than the New Realism have admitted themselves somewhat baffled as to what, exactly, knowledge meant to the critical realist; and (2) because I am persuaded that epistemology has not given proportionate consideration to its really basic problem: what does knowing consist in? On the one hand, I am aware that many able thinkers have not been able to get clearly before their minds the reinterpretation of knowledge which is characteristic of critical realism, an inability which must be, partly at least, my fault. On the other hand, I am convinced that philosophy made a logical mistake in putting the query, '*What* can we know, conscious states or physical things?,' before the query, 'What is the nature and content of knowledge?' It is my hope that I can show that critical realism involves a clear and definite answer to the second query, an answer, moreover, that cuts the ground beneath the traditional epistemological controversies.

## I.

Critical realism is a form of physical realism. Now the common character of all physical realisms is the principle that things

[1] Read before the March meeting of the Western Philosophical Association at Evanston. The paper has been considerably revised.

do not depend, for either their being or nature, upon our knowledge of them. To know is not to *form* the reality known, but to gain information about it as it exists in its own circle of being. Being is one thing, and knowledge is quite another, a function of mind in causal relation to that which is known. There can be little doubt, I take it, that knowledge implies this independence on the part of the reality known. We usually think of knowing as an event in the history of a mind.

At the level of common sense, knowledge is *on the whole* regarded as an apprehension by the active percipient of the things about him. They are open to his inspection, and they come into, and go from, his field of experience. Since these sensible things are taken to be common, independent, co-real, and relatively permanent, this apprehensional view of knowledge is but a reflection of the empirical structure of the field of the individual's experience and of the realistic meanings which have developed in it. If things are co-real, and I just 'see' them, my seeing them makes no difference to them and is primarily an event which happens to me. Thus this brown-covered book lying on the desk before me is taken by me to be, just as it appears, an existent co-real with myself. I perceive the book *in* its qualities.

One of the things I wish to show is that there is a profound truth in this outlook, despite its impossible naïveté. The justified function of idealism, so far as it speaks for real physiological, psychological and logical facts, is a war against the simplicity of common sense. Unfortunately, it has usually been interpreted as a denial of the profound truth, characteristic of all realism, that knowledge is distinct from the reality known, that is, that the reality known does not depend for either its nature or its being upon our knowledge of it. Critical realism is the retention of the truth along with a reinterpretation of knowledge due to a reflective study of the facts of the case. It is realized that physical things cannot appear in any literal way within the field of the individual's experience (his consciousness) and that, because of this fact, knowledge of the physical world cannot be an apprehension. What, then, can knowledge be?

## II.

There are two distinguishable elements in common-sense perception: the affirmation of a co-real existent, and the character, or aspect, of the existent. We perceive the existent in apprehending the given characters. These characters are its qualities, and to apprehend the qualities is to apprehend it. Hence, it is felt that to know the physical world is to apprehend things, which are its parts, to have the physical reality itself spread out before the observing self.

It is evident to the reflective mind that realistic meanings and modes of reaction have been attached to the presentational content given in perception. The result is the naïve category of thinghood. Things are independent, co-real with the individual, spatial, and possessed of dynamic capacities. All these empirical predicates must be true of an object before it can be regarded as physical. The development of this outlook is genetically explicable and no modern psychologist would feel much difficulty before it.[1] The point to note is, that these predicates, or meanings, are attached to a presentational content. We are aware of this content, and so we suppose ourselves to be aware of the physical existent.

But a critical study of the internal and external conditions of perception reveals that common sense has been too hasty. The complex objective content, or system of characters, which has been literally identified with the physical existent affirmed, as its qualities, is found to be numerically distinct from it and essentially a function of both the individual and his world. The physiological conditions of perception are now well known. Their recognition cannot possibly be used as a support of acosmism of the Berkeleian sort, but it does mean that the percipient cannot apprehend the existent itself in the given content. The common-sense category of thinghood needs revision. The physical existent is not a sensible thing.

We may put our result in the following way: No motive has entered which would cause us to doubt the existence of physical realities co-real with the percipient self, but *reflection has dis-*

[1] *Cf.* Stout, *The Groundwork of Psychology*, Ch. IX.

*covered that the objective content with which we at first clothe these acknowledged realities is intra-organic.* In other words, we can no longer maintain that we can apprehend physical things. What we can continue to do is to affirm the existence of physical things and apprehend a presentational content which corresponds in a mathematical sense with a particular physical existent.

But let it be noted that neither subjective idealism nor agnosticism is justified by this analysis. And I hope that philosophy has got beyond the stage of jumping to hasty conclusions. What is needed is a patient and persistent analysis and ordering which is able to go forward step by step. The facts which break down common-sense realism work within a realistic set of affirmations and meanings.[1] Hence, it is illogical to infer subjective idealism from them. On the other hand, only if knowledge must be an apprehension of the physical existent is agnosticism implied. But what right has a thinker to make such a tremendous assumption as that? If the facts indicate that we cannot apprehend the physical world, it is more probable that knowledge is not an apprehension than that we do not possess knowledge. Agnosticism is a counsel of despair. It is obvious that the nature of knowledge has come up for radical investigation.

## III.

Who can deny that reflection partly finds present, partly develops, the distinction between the realm of consciousness as a field of contents and processes somehow connected with the human organism, and the acknowledged physical world of which any such organism is only a part? And patient reflection only develops this contrast. The actual content of all *apprehended objects* turns out to be mental.[2] The paradox of the situation is that what is apprehended discovers itself to consist of characters which have no substantiality. Discriminate as we will, we find only sensible characters and meanings; and yet we feel that the re-

[1] *Cf. The Essentials of Philosophy*, Ch. III.

[2] 'Mental' is unfortunately an ambiguous word. I mean here subjective, personal, bound up with the particular percipient organism, psychical. This is a classification giving their existential status. Contentually these objects of awareness are often called essences.

ality which surrounds us cannot be any sum or organization of such elements. We tend to believe that we grasp an external reality in an intuitive way, and the tragedy is that what we grasp rings hollow. Being escapes us. And what is true of common-sense realism is equally true of scientific realism. What are mass and energy but quantities? And are quantities self-sufficient realities? The very stuff and being of the physical world again appears to elude us, while we are left with contentual objects hanging in the air, as it were, and yet masquerading at the least excuse as self-existent and substantial. We are led to ask ourselves whether being can be given. Is not all this objective content a peculiar substitute for being? The object of common sense breaks down into a self-existent reality, which cannot be given, and a content, which is given.

But this discovery that only *subjective* contents are given is a fairly common possession of modern philosophy. It must be remembered, however, that these subjective contents are objective within consciousness, that they are subjective only in the sense of *in* the individual experiencer, not a part of the physical environment to which the conscious individual is reacting. But this conclusion only shuts out an apprehensional view of our knowledge of the physical world. *It proves that only mental contents can be given; it does not prove that we can know only phenomena.* The mistake of philosophy has been to confuse these two principles; or, rather, to deduce the second from the first. Thus Kant indicates—in this following essentially Locke and Hume—that only phenomena can be given, and interprets this as meaning that only phenomena can be known. What is the nature of knowledge? Cannot these contents be the *material* of knowledge rather than the *object* of knowledge? It is evident that we must study the structure of consciousness and that act or process called reference before we can understand knowledge.

It is my contention that we possess the distinctions and capacities which make an *aimed* knowledge possible. Reflection forces us to epistemological dualism, that is, the recognition that knowledge can only be the use of contents as causally correspondent to, and therefore informative of, the physical world. Thus an ex-

plicit act of knowledge can be analyzed into three factors: (1) the existent acknowledged with its determinate nature, (2) the knowledge-content, and (3) the interpretation of the first in terms of the second. The existent is acknowledged and is thought of in terms of the characters given to the mind in perception and conception. Explicit knowledge, then, involves the capacity to affirm realities co-real with the self and to think these realities in terms of predicates.

Let us call the physical existent the *object* of knowledge. For the realist it is co-real with the knowing individual, and it is distinct from the knowledge-content in terms of which it is known. When the knowledge-content is considered for its own sake—as it sometimes is—it may be called the object of awareness. Other terms for it are presentation, idea, datum and essence. Now the very gist of the difference between neo-realism and critical realism is that the knowledge-content, or object of awareness, is, for the latter, numerically distinct from the existent or object of knowledge. The only justification of the phrase *epistemological dualism* resides in this fact. The existent acknowledged, but not given, is the object of knowledge, while the mental content given is the material and content of knowledge, but not the object.

An example may make all this analysis clearer. I look out of doors on a windy day and see a tree whose branches are tossing in the wind. My natural outlook is realistic. I affirm the tree as a physical thing co-real with myself. This existent affirmed is clothed in the given presentational content. I perceive the tree *in* the presentation. Here we have naïve realism. The other point to note is, that all inferential, achieved knowledge naturally and easily attaches itself to this existent which is 'perceived.' Both psychologist and logician inform us that there is no hard and fast line between perception and conception, that the content of perception is largely judgmental. All of which means to the critical realist that the given content, whether largely sensory or largely judgmental, tends to be identified with the existent which is affirmed. We perceive and conceive the tree *in* the given content. What is the truth and what the error in this outlook?

Reflection shows that we cannot perceive the tree if we mean by 'perceive' the presence in our experience, or consciousness, of the physical existent itself. We cannot apprehend the physical tree. And can there be much doubt that common sense assumes that the presented complex *is* the tree or an aspect of the tree? Hence we must break with common sense and make the actual situation explicit. The object of perception—the existent affirmed in perception—is not apprehended; but it does differentially control the presented complex which tends to be identified with it. The outlook of perception is in a way illusory because it seeks to identify what is only related, viz., the presented complex (the object of awareness) and the physical existent (the object of perception, the reality affirmed in perception).

When this situation is made explicit, we can at once see that knowledge must recognize, and build upon, what perception tends to ignore, to wit, the difference in existential status between the presented complex and the physical existent. The presented complex must be regarded as the *material* of knowledge about the physical existent; and knowledge must be openly acknowledged to be not the apprehension of the existent but the interpretation of the existent in terms of propositions based on the material which corresponds to the existent. In other words, observation is one of the *means* to knowledge rather than knowledge in its own right.

## IV.

Every gnostic realism must hold that the content of knowledge must be grounded in, and derived from, perceptual experience. The presentational complex is in a delicate *correspondence* with the physical things perceived. There is every reason to believe that the physical world reveals itself in the data of perception. But we should not have mythical views of the nature of this revelation. It is not a reproduction of a pictorial sort: it is not a photographing of things. The relation between physical existent and presentational complex is purely natural and causal. What we need to emphasize is the correspondence. What we need to relinquish is the idea of a likeness as between two objects of awareness. Any question of such a likeness is quite irrelevant

to the examination of the actual character of human knowledge. But I shall say more of that later when I come to criticize Locke.

How, then, must we adjudge the status of the presented content in perception? Existentially, as an intra-cortical effect to be correlated with the perceived object; epistemologically, as the material out of which knowledge of the object can be gleaned. And one of the main points of this paper has been a plea not to set up beforehand a dogmatic notion of what knowledge *must* be.

The general conditions of knowledge are twofold: (1) the action of the environment upon the organism, an action prepared for and furthered by the structure of the organism; and (2) the internal capacities of the brain-mind. Human knowledge is a product of these two factors, and is unique. With the more receptive level of the brain (the sensory and perceptual level) must be correlated the presentational complexes which are the material of knowledge; with the operations and activities of analysis, construction and inference must be correlated finished knowledge-content (propositions) ready for reference. What we are permitted to accept is a control by the physical existent which is welcomed and furthered by the brain in accordance with its own nature. I refer, of course, to the sense-organs, the operations of comparison and association, the time-development of percepts, the active experimentation of science. The brain is sympathetic with reality and, like a skilled lawyer, draws out its story and puts it into its own language. The physical world must be assisted toward its unintentional self-revelation by such an organ as the brain if knowledge is to arise.

And this setting of knowledge-content allows us to claim a genuine conformity between it and the physical existent known. The situation is, of course, unique, and metaphors will not much help us. We are confined to the mental side and can never literally grasp the existent known. Knowledge must be non-apprehensional. But this is no reproach to it, as some strangely think, but rather its triumph. Knowledge is not being nor should it pretend to be. The conformity between knowledge-content and determinate being is correspondent rather than reproductive. No part of the stuff, of the particular existent

known is carried over into the mental content.[1] Yet the predicates are ideally modelled upon the character of physical reality. Being is determinate, and knowledge patterns after it. And it must always be remembered that knowledge is the product of a process using sense-presentations as its raw material. To forget this was the mistake of the older empiricism.

## V.

Our conclusion is that we must break completely with the illusory ideal of knowledge nourished in us by the outlook of perception. Perhaps knowledge is just the information about things of the sort made possible by the correspondence between presentational complexes and their causes?

This suggestion finds support in the actual content of scientific knowledge. The scientist informs us of the relative size of things, their structure, their constitution, their modes of behavior toward one another, the order of their changes. Now all this is just the sort of information that sense-data can mediate. Space and time, structure and behavior, are categories which arise by abstractive construction from the characters of the sense-continuum open to observation. It seems a plausible thesis, therefore, that knowledge is the information about physical things which can be gleaned from the use of sense-material as a basis.

Professor Perry has defined realism as the principle that "things may be, and are, directly experienced without owing either their being or their nature to that circumstance."[2] I would substitute 'known' for the phrase "directly experienced." The sense-continuum is controlled by physical existents, and its existential status is subjective or in the organism. The direction is the causal one from cause to effect. In perception the path is retraced *ideally* through the affirmation of the cause as co-real with the percipient and the illusory clothing of the *cause* with the content as the object of perception. In knowledge, this

[1] Presentational complexes are bits of consciousness. They are variants whose nature is exhausted by their actual content. Hence they must be regarded as non-substantial and *in* the brain though not a physical part of it.

[2] *Present Philosophical Tendencies*, p. 315.

ideal reversal of direction is continued. Hence in knowledge there is no existential cognitive relation between the mind, knowing through the knowledge-content, and the object of knowledge. The meanings of common-sense realism, viz., the co-reality and permanence of physical things, can be retained by critical realism.

The knowledge-content is a direct interpretation of the physical reality, that is, we are compelled to think the physical realm in terms of the predicates which we have achieved in our experience. But these predicates make no assertion concerning the stuff of physical being at all. Being is not reproducible in any literal way in knowledge. We must assume, however, that physical being has a determinate character and that our categories are relevant to it. Why should they not be, since they derive from the character of the presentational complex which is, itself, under the control of the physical world? But this determinate character of physical being is an intellectual distinction suggested by the content of knowledge, and not a separate factor in physical being. No metaphysical dualism of form and matter must be allowed to creep in. We may say, then, that the physical world lends itself to knowledge because it is determinate.

In knowledge, just as in perception, the object is the existent affirmed. It is this existent toward which thought directs itself. The knowledge-content is only a part of the total cognitive act. If we call the knowledge-content an idea, this idea is *what* is known about the object. What we should bear in mind is the active setting of the idea as a part of the total cognitive act.

I take it that the fault with the older type of epistemological dualism, called representationalism, was the tendency to suppose that the idea was the object known rather than the instrument and content of knowledge. Another fault lay in the content of the idea, which was often too immediate and sensuous in character. The raw material of knowledge was taken to be knowledge. Thus Locke's position is often called representative perceptionism. His thought was not enough loosened from the naïve form of the category of thinghood built around the outlook of perception. For him, the physical existent was a sort of

sensible thing to be known only through a copy. But does this not mean that he thinks of the physical existent as theoretically apprehensible and as clothed in its own right with characters called qualities? Since we cannot apprehend these adherent qualities directly, we must do so indirectly—that is, through a substitute copy—or be agnostics. Locke's view of knowledge is what I have elsewhere called an indirect, or reproductive, apprehension.

But, surely, analysis has proven that the presented content in perception is an intra-organic complex which is interpreted falsely as he presented aspect of an affirmed existent. It is this false outlook which gives us *sensible things*. Hence the deeper question arises: Do physical existents have, as it were, a sensible surface in any way analogous to the appearance of the sensible things of naïve realism? If we answer this question in the negative—as I think that we must—we undermine the copy-theory more drastically than the usual criticisms do. There is no model to copy. I do not mean, of course, that the physical existent has not a determinate nature about which we can gain knowledge, but rather that this nature is non-sensible.

To know is an ultimate claim. It is something we cannot help doing. And I, for one, can see no good reason against this natural claim. Knowledge has its place in consciousness, which is, itself, in an organism. Such knowledge necessarily has its limitations. We who have studied its nature and conditions can see this necessity very clearly. Physical being is other than knowledge. It is substantial, permanent, dynamic. In the physical sciences, we are but witnesses of such activity and massive power. In itself knowledge is adynamic and almost ghostly. But because it is knowledge it guides the human organism in its perilous effort at adaptation to the universe in which it finds itself. Knowledge of the physical world is knowledge about it in terms of and by means of data which are intra-organic objects of awareness, and so elements of some one's consciousness.

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# DISCUSSION.

## Notes on Professor J. S. Mackenzie's Theory of Belief, Judgment and Knowledge.

1. Professor J. S. Mackenzie, in his *Elements of Constructive Philosophy*, a review of which appears elsewhere in this issue, puts forward a theory of belief, judgment, and knowledge which deserves somewhat more extended examination than it was possible to give to it within the limits of a review of his whole book. It is an interesting example of the influence of the neo-realist movement on a mind trained in the idealist tradition. In its insistence on the objective factor in knowledge, in its use of the concept of 'objective order,' in its effort to distinguish sharply between what is subjective and what is objective, Professor Mackenzie exhibits a keen desire to escape subjectivism and meet the neo-realists half-way. He expresses a fear lest he may not have succeeded in being objective enough. My criticism is rather that he has succeeded too well. The way in which he contrasts belief and judgment exposes his account of knowledge to serious and, as it seems to me, fatal difficulties.

2. The main points of his theory may be summarized as follows:

A proposition is the expression in language of a meaning or judgment. All judgments are objective, *i. e.*, "they have no special reference to any individual consciousness."[1] Many different minds may believe the same judgment. Judgments are related to each other by implication and thus belong to various objective orders.[2] An individual mind may take up one of three attitudes towards a judgment. It may believe, disbelieve, doubt. All these attitudes presuppose that the judgment is first understood, *i. e.*, that the meaning is clearly apprehended. To believe a judgment is to accept it as true; to disbelieve is to reject as false; to doubt is to treat as uncertain. Belief, thus, is the act or attitude of an individual mind, and, as such, it is to be sharply distinguished from the judgment itself as a logical entity. An individual mind often rejects as false a judgment which is actually true, or accepts as true one which is actually false. Hence we must further distinguish between the truth and falsity of judgments, and the correctness or incorrectness (error) of beliefs. A correct belief is

[1] P. 43.

[2] Professor Mackenzie's judgments are, as he notes himself, identical with Bertrand Russell's propositions or "assertions in a non-psychological sense."

the acceptance as true of a judgment which actually is true. Knowledge is "correct belief together with the apprehension of its ground."[1] Correctness and error admit of degrees: truth and falsity do not. Beliefs are correct by correspondence with an objective order. Judgments are true by coherence with, *i. e.*, by fitting into, by being actually members of, an objective order. Belief is the subjective, psychological, mind-dependent factor. Judgment is the objective, logical, mind-independent factor.

In commenting on this theory, I shall begin with the distinction between truth and correctness (§3); pass on to doubt (§4); next urge certain difficulties against Professor Mackenzie's account of objective orders (§5); and conclude with a criticism of his theory of belief and knowledge (§6).

3. On a strict interpretation of the distinction between the act of belief and judgment, the predicates 'correct' and 'incorrect' ought to apply to the *act* of accepting a judgment as true, not to the *judgment* which is accepted. This might be made into a plausible theory. Acceptance of a true judgment would be correct, *i. e.*, justified by the truth of the judgment. *Vice versa*, acceptance of a false proposition would be wrong: error would be sin. The acts would be a kind of conduct or behavior, open to praise and blame according to the logical quality of the judgments upon which they are directed.

This seems to have been Descartes's view. But it cannot be Professor Mackenzie's. Judgments, he tells us, are simply either true or false. Hence, if the quality of the act followed simply the quality of the judgment, there could hardly be degrees of correctness where there are no degrees of truth. Again, it would be awkward, at the least, to say that an act is correct by "corresponding" to an objective order. Thus I conclude that Professor Mackenzie applies "correct," not to the act of believing, but to *what* is believed, *i. e.*, to the judgment accepted. His own examples bear this out. If in a card-game the rule is that the Queen takes the Knave, the belief that the Knave takes the Queen is said to be incorrect.[2] Why? Because this order does not correspond to the objective order. That is, the failure of correspondence lies in the difference between the judgment actually accepted and the judgment which ought to have been accepted in its stead. As a matter of fact, the language of correspondence is plausible only so long as we deal with belief of a false judgment. It becomes entirely artificial when what is believed is true. "The judgment that $2 + 2 = 4$ does not *correspond* to a relation that is contained in the

[1] P. 128.

[2] P. 121.

numerical system: rather it *is* such a relation. The *belief*, on the other hand, that 2 + 2 = 4 is a belief that corresponds to the fact."[1] Here, I should say, is a distinction without a difference. What is here believed is a true judgment. Is anything gained by saying that this judgment as believed corresponds to itself as true?

The theory of degrees of correctness demands the same interpretation and suffers from the same weakness. Degrees of correctness are derived by Professor Mackenzie from the fact that "a judgment that is false may be more or less remote from the truth"[2]—in other words, the degree of correctness attaches to the judgment believed, not to the act of believing. Yet, objectively considered, what occasion is there for this grading of judgments according to the size, so to speak, of their falsity, or their distance from the truth? If falsity means simply exclusion from, or incompatibility with, an objective order, then a miss, as the proverb has it, is as good as a mile—or, rather, it is as bad. There is no getting away from this by arguing, as Professor Mackenzie appears inclined to do, that to believe a judgment which is only a little false may not be seriously wrong for many purposes.[3] The only purpose which matters here is the purpose to know, and for this purpose a mistaking of false for true ought always to be serious.

The point I am urging, then, is that Professor Mackenzie appears, at first, to have aimed at a distinction between acts of believing and judgments, but that in the end he substitutes for this the distinction between judgments which are believed and judgments which ought to be believed, and construes the relation between these as one of correspondence or failure to correspond, with an attempt to estimate the degree of their divergence. The cause of this vacillation, so it seems to me, is that, in committing himself to the antithesis of belief and judgment, Professor Mackenzie has cut himself off from the only point of view which will make his theory coherent and intelligible—the point of view of knowledge-getting; of truth-seeking and truth-finding. The concept of degrees—whether of truth or correctness is a matter of words—has an intelligible meaning in a context where open questions are in process of being settled by enquiry and reflection. It there corresponds to a critical estimate of the degree of success attained—an estimate itself guided by consideration of all relevant evidence. Or if we regard the question as settled by a definite answer, we can say of other suggested answers that some are less false, or

[1] P. 120; author's italics.
[2] P. 117.
[3] P. 118.

nearer the truth than others, *i. e.*, less in conflict with the evidence, requiring less transformation to become true.

"Requiring transformation"—the phrase suggests a test-question: Can any judgment be transformed? Can it be corrected? Professor Mackenzie, I think, will have to say that judgments are unchangeable and only beliefs subject to modification. Speaking of concepts he lays it down that "a meaning is identical with itself, and distinct from every other"[1], and that any change means passage to a different though closely related concept. He would, no doubt, say the same of judgments, treating them as so many distinct atomic entities, capable indeed of implying, or conflicting with, each other, but incapable of being modified. To correct a mistake is to substitute a true judgment for a false one in somebody's mind. To advance in knowledge is to give up believing one set of judgments and instead to believe another set. Can a judgment, then, or a theory have no history, undergo no development? Professor Mackenzie seems bound to say 'no.' Yet what sort of history can a belief have on his view? All we could chronicle would be that on a certain date a certain judgment was accepted as true by a certain person, and on a certain other date was rejected by him in favor of some other judgment. Yet what we mean when ordinarily we speak of the history and development of a theory has nothing to do with its acceptance by this or that person, but with its expansion into a truer form under the pressure of fresh evidence. But for this point of view there is, so far as I can see, no room in Professor Mackenzie's theory.

It is of a piece with this that Professor Mackenzie frequently contrasts objective order and truth with the historical vagaries and fluctuations of beliefs. Yet when challenged to produce an instance of an objective order, we can do nothing else—and certainly Professor Mackenzie does nothing else—but mention some system of judgments accepted by all competent persons, *i. e.*, the most coherent, and logically stable, system of "beliefs" available. In other words, he appeals to some order as we "know" it to be, *i. e.*, as in the light of all available evidence we believe it to be. Thus the antithesis of belief and judgment disappears when we come to knowledge. Fact, truth, objective order—these and all similar terms have a concrete meaning only in the context of knowledge, not over against it. The reason for this is that knowledge is well-grounded belief, and that objective orders reveal themselves in the form of what we are logically led, or obliged, to believe.

4. This conclusion, that the order of beliefs and the order of judg-

[1] P. 85.

ments are identical in knowledge, gains support from a consideration of Professor Mackenzie's remarks on *doubt*. "Doubt is a mode of belief: it is the belief that something is uncertain."[1] In other words, doubt is the acceptance as true of the judgment that something is uncertain. What is this "something"? "The only things that we *can* doubt are judgments."[2] To doubt, then, is to believe the judgment that some other judgment is uncertain.

It is judgments, we note, not beliefs which are uncertain. Yet how can this be, if judgments are nothing but either true or false? Given an objective order to which a judgment claims to belong, it either fits in or it does not—how can it be objectively uncertain?

Are certainty and uncertainty, then, qualities of beliefs, rather than of judgments? Are they perhaps purely psychological? That, again, cannot be, for there is the judgment $p$ that judgment $q$ is uncertain. And $p$, being a judgment, must belong to an objective order and be either true or false. But if it is true, then there is an objective order in which $q$ is uncertain, and can be known to be uncertain. Thus the situation is thoroughly logical. Given certain judgments, a certain other judgment may be undetermined in respect of its coherence with them. Granted that with fuller knowledge this indeterminateness, and, with it, doubt, would disappear, yet so long as it is justified by the evidence, doubt like knowledge is logical, *i. e.*, grounded in the objectively indeterminate relation between the judgment doubted and the rest of the system of judgments to which it claims to belong. Here, again, the antithesis of belief and judgment with respect to doubt disappears, when doubt is taken as incidental to the enterprise of knowledge-getting.

5. The concept of objective order involves some puzzling problems which deserve at least to be pointed out.

(*a*) What is the locus, so to speak, of false judgments in the system of objective orders? This is the problem of 'objective falsehoods' from which even stout-hearted neo-realists have been known to shrink. An objective order consisting only of true judgments gives no trouble. But what of the infinity of judgments, all objective, which are false, *i. e.*, excluded from the order to which they claim to belong? Is this exclusion, after all, a round-about sort of inclusion? Are we to think, *e. g.*, of the numerical system as consisting, not merely of all numerical judgments which are true, but also, in a wider sense, of all which are false? And these, again, ordered according to the degree of their falsity?

[1] P. 139.

[2] P. 31; author's italics.

(*b*) Again, it is one thing to believe a judgment as true when one already happens to believe the objective order to which that judgment belongs. But why believe the objective order itself? Acceptance of a judgment on certain grounds is always hypothetical. For why accept the grounds? What justifies this prior act? Where is the categorical basis of the belief in order itself? The question ought to be the more urgent for one who, like Professor Mackenzie, refuses to treat the universe without proof as self-consistent, *i. e.*, as an ordered system; who is haunted in fact, by the appearance of chaos in the actual world. How escape from the doubt that all order may be the child of selection and abstraction—a fiction substituted for a fact?

(*c*) Is this categorical basis to be found in "simple experiences," such as "pain or joy or a color or a sound or a tree"[1] which, according to Professor Mackenzie, cannot really be doubted, though we may doubt judgments formed with reference to them, such as: this pain is severe, this is an apple-tree? There is clearly all the difference between something which cannot be doubted because it is not a judgment at all,[2] and a judgment which cannot be doubted because there is no good ground for doubting it. What is the place of these simple experiences, safe from doubt, in objective orders? What, again, is their place in knowledge? What is the relation between them and the judgments which refer to them? How is it that any false judgments about them come to be accepted at all, and that at the very moment of having these experiences? If 'seeing is believing,' seeing means accepting a judgment as true. But if so, it is also right to say that it is possible to 'doubt one's senses.' Can we really distinguish here between a dubitable judgment and an indubitable datum? There is clearly a nest of problems here with which I could wish that Professor Mackenzie had dealt beyond throwing out the tantalizing hint that "sense-data supply us with universals, and fall into definite orders."[3]

6. Turning, lastly, to the problem of knowledge, I should like to comment on two points.

(*a*) The term 'knowledge' in recent theory has commonly suggested two entirely different problems. The one has been based on the individual mind. Whatever such a mind is aware of, regardless of its truth or falsity, has been said to be 'known' by that mind. Knowledge has meant no more than apprehension by a mind, and the problem, more particularly for neo-realists, has been how to save the objective universe from the alleged idealistic trick of making its exis-

[1] P. 31.

[2] Only judgments can be doubted—*cf.* p. 517 above.

[3] P. 132.

tence and character depend on its apprehension by some individual mind. All such theories begin with individual 'fields of consciousness,' or 'subjective orders,' or 'mental cross-sections,' and then strive to argue that there is a vast objective universe not included in any such field or section, and that even what is at any moment so included can pass out and in again without damage to its reality, without a stain on its metaphysical character. The other problem has not looked to individual minds at all, but to the evidence or grounds for the truth of judgments. It has been oriented towards the distinction between 'opinion' and 'knowledge' in the Platonic sense, *i. e.*, between beliefs which are, as Mr. Russell would say, "soft," and beliefs which are "hard," *i. e.*, so securely grounded, so logically stable, that no challenge is possible for lack of evidence. Professor Mackenzie combines both problems. For belief to him means acceptance of a judgment by an individual mind. But knowledge means well-grounded belief. Yet for anyone for whom the fundamental question is what it certainly is for Professor Mackenzie, viz., what sort of a universe we have the right to believe this universe of ours to be, the *de facto* acceptance of a judgment is really nothing, but the adequacy of its grounds everything. Yet the distinction of belief and judgment, which belongs to the first type of problem, keeps interfering with the second, and prevents Professor Mackenzie from working out in detail his own sound principle that "the order of our thought is not purely subjective, but is dependent on a certain objective order that lies in the nature of things."[1] He would then have regarded knowledge as the progressive discovery of a system of judgments which are true, and are accepted as true, because in them we have "the objective order that lies in the nature of things." It would still be possible from this point of view to hold, as apparently Professor Mackenzie holds, that for many of the most central judgments of metaphysics no decisive grounds can be offered, and that the acceptance of them is a venture, perhaps an adventure, of the spirit. For even in these ventures we must be guided by the balance of the evidence according to the best insight we can command. Given this, it becomes a question of words whether we are to set metaphysical hypotheses down as knowledge or as faith. For faith does not escape from the principle that whatever is a good reason for believing a judgment is, so far as it goes, a good reason for the truth of that judgment.

(*b*) The second point is that putting the problem of belief in Hume's way, as Professor Mackenzie does in effect when he asks, "What is it

[1] P. 62.

exactly that is added to a proposition or judgment when it is believed to be true?"[1] tends to give yet another wrong orientation to the whole enquiry. Hume, it will be remembered, proceeds on the assumption that all our "ideas," as products of the imagination, primarily simply occur without being believed, and that there is nothing in "the nature and order" of our ideas, why some should be believed and others not. Yet an idea believed or "assented to" feels different from a "fictitious idea" and acquires the status of "matter of fact" and "reality." Hence the problem for Hume is to account for the addition of this feeling. Professor Mackenzie's antithesis of belief and judgment predisposes him similarly to say: here is a judgment $p$—now what happens to this judgment when, in addition to being true or false (as the case may be), it is also believed as true by a particular mind $x$?

The correct orientation is rather, I think, to say that the primary fate of all judgments is to be believed, and that the problem is, not how they acquire, but how they lose this privileged status. It is, surely, the experience of contradiction which brings home to us the impossibility of indiscriminate hospitality to all judgments. We discover that believing $p$ may compel us to reject $q$; and with this we are impelled to enquire which we ought to believe and why. Thus we are launched (though we may not persist) on the quest for the most coherent scheme of beliefs attainable. In the sorting out of judgments which results, the rejected ones may, if we please, be labelled 'fictions' or 'errors,' but they suffer this degradation under the logical pressure of the evidence. They are the objects of well-grounded disbelief in the enterprise of knowledge. They are, in short, *known* to be false.

Quite different is the status of fictions in art, or of make-believe in play, or, in general, of every exercise of the imagination for its own sake. There we are occupied with judgments in the way which Meinong calls *Annahme*, and no question arises of belief, disbelief, or doubt, which attitudes belong to the cognitive interest. Meinong, indeed, appears to hold that *Annahme* is present everywhere in cognition too, viz., in the apprehension of the meaning of a proposition and in the entertaining of it for consideration, before we commit ourselves to acceptance or rejection. But this, it seems to me, is an exaggeration, not only because it blurs the distinction between *Annahme* as a stage on the way to knowledge and *Annahme* as the characteristic attitude of art, play, imagination, but also because even in knowledge such non-committal supposal of a judgment is a late development, coming after bitter experience of error has taught us the need for critical caution.

[1] P. 44.

Fundamentally, belief is inescapable, because the universe is always with us. Every thrill of experience attests its presence; compels—to put it in the language of highly reflective theory—acceptance of the judgment that something exists. What exists? What is this something? To these questions experience in all its forms supplies the answer, or at least the materials for an answer. Thinking, or the search for knowledge, is the endeavor to elicit from these materials a revelation of the whole nature of the universe which shall, as far as our evidence permits, be at once coherent and complete.

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# REVIEWS OF BOOKS.

*Elements of Constructive Philosophy.* By J. S. MACKENZIE. London, George Allen and Unwin, Ltd.; New York, The Macmillan Company, 1918.—pp. 487.

The leisure consequent upon his retirement from the Chair of Logic and Philosophy at Cardiff has enabled Professor J. S. Mackenzie to complete and publish this book which, as he tells us in the preface, was undertaken more than twenty-five years ago. It is thus the ripe fruit of a lifetime devoted to philosophical speculation—a deeply-considered utterance on fundamental problems by a mind sane, luminous, and, above all, intellectually honest; not afraid to venture on speculative experiments, yet prevented by critical caution from offering tentative guesses as established certainties. The most attractive feature of the book is, to my mind, this experimental and non-dogmatic manner in which Professor Mackenzie feels his way towards the conclusion that the universe is a perfect cosmos ("Cosmism"), and is content in the end to claim no more for it than that we have the right, not so much to believe it, as to hope for it. The best we can do is to show, on the one hand, that such a conclusion is not utterly without foundation in the world as we know it, and, on the other, that it is not intrinsically absurd, or open to insuperable objections. It is obvious, of course, from this statement, that Professor Mackenzie's philosophical thinking is oriented towards a goal which many other thinkers, past and present, have sought to attain. But though he travels a well-trodden road, one never has the feeling that he is merely following in the footsteps of others. Professor Mackenzie carries a great load of learning lightly. He uses historical materials plentifully, but they are always kept subordinate to his own argument. There is no appeal to the authority of a great name, but a give-and-take as among equals coöperating in a common enterprise; hence a fine readiness to learn from the successes and failures of others. Moreover, years of reflection have not diminished the freshness and elasticity of Professor Mackenzie's mind. His discussion is in touch with the most recent books and articles, and the influence of the New Realists, more especially of Meinong and Russell, would be obvious even if he had not explicitly acknowledged it. Thus, all in all, it is a pleasure to welcome Professor Mackenzie's book as singularly helpful and stimulating. It should abundantly fulfill its author's hope of being "of some service to others,

especially to those who are more nearly at the beginning of their studies" (p. 1).

The range covered by Professor Mackenzie's discussion is so large as somewhat to baffle a reviewer who has to keep within decent limits of space. In fact, I have had to take refuge in the expedient of throwing my most detailed criticisms into the form of a separate discussion which appears elsewhere in this issue. Thus I am enabled to devote this review to a general account of the book, with briefer comments on certain chapters or problems which seem to me especially deserving of attention.

Professor Mackenzie has divided his argument into three books. Book I, containing ten chapters, is entitled "General Problems of Knowledge—From Doubt to Belief." Beginning with Descartes's method of doubt, and Hume's theory of belief, Professor Mackenzie argues that belief is the acceptance as true of judgments, and through judgments brings us into contact with various "objective orders" (ch. VII). As the concluding chapter of the volume puts it, "To discover order and to create order are, I believe, the highest functions of humanity" (p. 479). The discussion of objective orders naturally leads on to the discussion of "Truth and Reality" (ch. VII), which is followed by a chapter on "The General Nature of Knowledge" (ch. IX), and another on "Theories of Knowledge" (ch. X). An earlier chapter (ch. VI) on the "Laws of Thought" maintains that these laws are to be interpreted neither psychologically, as if, like the laws of association, they expressed uniformities actually observable in all our thinking, nor metaphysically, as if they defined the nature of reality: they are to be interpreted as "ideals or regulative principles," as rules for the use of the instrument of thought, as conditions to be observed if our thinking is to be consistent. I must confess that I find this refusal to interpret the laws of thought metaphysically, whilst yet declaring that they are "objective" (p. 81) and that "the general basis of all inference is the recognition of some form of Objective Order" (p. 94), very hard to understand, let alone to accept. Professor Mackenzie's doctrine, however, is part of his general theory of belief, judgment, and knowledge, which I have examined in the discussion mentioned above.

No catalogue of titles can give any adequate idea of the ground covered in these chapters. Here are, for example, the section-headings of ch. IX: "(1) The Meaning of Knowledge, (2) Explicit and Implicit Knowledge, (3) Individual and General Knowledge, (4) Intuitive Elements in Knowledge, (5) Elements of Intellectual Construction, (6) Elements of Faith, (7) General Structure of the World

as Known, (8) Limits of Reasonable Doubt, (9) Absolute Knowledge and Knowledge of the Absolute, (10) Idealism and Realism, (11) Pluralism and Cosmism"—all this in about fifteen pages. But, though occasionally a section may consist of barely a dozen lines, and few run over two pages, the discussion is never scrappy or thin. Writing out of the fullness of his knowledge and reflection, Professor Mackenzie says what he has to say pregnantly and briefly, and it is always worth close consideration. The same wealth of content characterizes the chapters of the second and third books. Thus chapter V of the second book, on Modes of Unity, discusses: "(1) General Meaning of Unity, (2) The Meaning of 'In,' (3) The Unity of Members in a Class, (4) The Unity of Relations in an Order, (5) The Unity of Qualities in an Individual Object, (6) Mechanical Unity, (7) Chemical Unity, (8) Organic Unity, (9) The Unity of the Material System, (10) The Unity of Consciousness, (11) Social Unity, (12) Spiritual Unity, (13) Cosmic Unity, (14) Relation between Modes of Unity." Some of these latter modes of unity receive further detailed examination, each in a chapter to itself. Other chapters of the second book are concerned with the Categories in general, and with Quality, Quantity, Causation, Value, Freedom, Personality in particular. Ch. II, on "Qualitative Conceptions," deals with such problems as the relation of quality to kind, especially in its bearing on the question of qualitative continuity or discontinuity. "The abrupt separation of kinds is the principal obstacle in the way of regarding the world that we know as a complete order" (p. 187). There are differences in the world which it is difficult, if not impossible, to reduce to any common terms (p. 184). The difficulty does not seem to me quite as formidable as it does to Professor Mackenzie. The correlation of differences according to some principle or law, upon which he dwells himself in ch. IV on "Causation," reveals an order which does not require "common terms." The discussion of the subjectivity of secondary and tertiary qualities supplies a good illustration of the subtlety and balance with which Professor Mackenzie picks his way among conflicting theories. In the main, he thinks, the primary qualities are more permanent and less variable, but that this is no reason for stripping the object of color or beauty and locating these "in the mind." As he puts it in a later chapter: "An object need not be supposed to carry all the qualities that are rightly referred to it always about with it, any more than a man has all his possessions in his pocket" (p. 235). Hence the conclusion is: "There is no real reason for supposing that secondary and tertiary qualities have a less real place in the structure of the universe than

those that are called primary, though it may be somewhat less true to refer them to individual objects, and though their existence may imply more directly that of sentient beings" (p. 193). Chapter III, on "Quantitative Conceptions," affords a good example of Professor Mackenzie's skill in ordering and classifying different forms of a concept. He works out in detail a distinction between "magnitudes" as numerical, qualitative, intensive, extensive, protensive. These are the applications of the general concept of More-or-Less to members of a class, approximations to a type, degree, distance in space, distance in time. Incidentally, there is drawn a distinction between 'numbers' and 'numerical expressions' which seems to me well taken. Other examples of Professor Mackenzie's gift for systematizing are to be found in the list of twelve modes of objective order (Book I, ch. VII); of four meanings of 'reality' (Book I, ch. VIII); of theories of causation (Book II, ch. IV); of different meanings and applications of 'infinity' (Book III, ch. III).

So far, however, I have touched only on the earlier chapters of Book II, which, as a whole, is entitled "Special Aspects of the Universe as Known—From Nature to Spirit." The critical point of transition appears to be where from the unity of the organism we pass to the unity of consciousness. "An animal," we read (p. 241), "like a plant, is an organic structure; but it is a structure that has a more or less definitely developed centre of reference, at which the unity of its life is focused and in some degree controlled." The emphasis now shifts to the development of these individual centres or foci of consciousness —to the characteristic 'worlds' of objects which they recognize, to the values and ideals by the pursuit of which they regulate their conduct. Freedom comes under consideration (ch. IX) as the condition of the voluntary effort to realize ideals. Again, a conscious being becomes a "person" in proportion as the interests of the body are subordinated to "all those things with which we habitually work, the objects in which we are interested, the persons to whom we are related, the material and the spiritual atmosphere which we have learned to breathe" (p. 321). Above all, a personal life is a social life. It involves membership with others in a social unity, which, with special reference to the conscious relations of persons with each other, is even more appropriately called a "spiritual unity." The discussion of "Social Unity" (ch. VII), "Personality" (ch. X), and "Spiritual Unity" (ch. XI), gives Professor Mackenzie an opportunity for touching on a great variety of interesting topics, such as the concepts of the Super-personal (p. 324) and the Super-human (p. 332); love (p. 328); progress

(p. 336); personal immortality (p. 321) and corporate immortality (p. 340). Not the least valuable are the sections on the Personal and Spiritual Significance of Education (ch. X, § 10 and ch. XI, § 10).

Concerning freedom, Professor Mackenzie's chief point is that "it is always open to everyone to do his best " (p. 309); and that, so long as it is possible to improve oneself "by taking thought," moral blame or praise are, humanly speaking, justified, however true it may be "from the point of view of the universe" that no one is responsible ultimately for his choices. But, further, it would appear that the ever-present power of doing one's best is itself subject to limitations, partly of insight into what actually is best, partly of effective self-control. In so far, however, as these limitations are themselves removable, "we can only say that human beings are partly free and may hope to become more so" (p. 311). This is an ingenious synthesis of the two senses of freedom which are usually distinguished—the "neutral" freedom, as Henry Sidgwick called it, which is the power to choose the best, but also the worst, and the "moral" freedom which consists in actually choosing and realizing the best. But there is a further point involved, with which I could wish that Professor Mackenzie had dealt. Granted that "there is no real opposition between necessity and freedom" (p. 309) because "each mode of being behaves in accordance with its own inherent structure" (p. 310), which structure, in the case of human behavior, consists of valuations, is it not essential to add that the consciousness of an ideal—of a best, or at least of a better—is itself the ultimate source of power? In other words, was not Kant substantially right when he said: "I ought, therefore I can"? Freedom, in Professor Mackenzie's sense is *können;* but what is the secret of this *können* in the "inherent structure" of a human being? Is it anything other than that his acts fall, in principle, *sub ratione boni*? No doubt, we may fail, because, though the spirit is willing, the flesh is weak. But the only moral of that is that the spirit must learn to control the flesh if it is to realize itself. But can it? it may be asked. Has it the power? To which, surely, the only answer is that to be spirit is to have this power. And to be "spirit" here means to be one with an ideal which is both man's nature and man's destiny—an ideal, moreover, which is social; and in the realization of which social agencies like education, social relationships like love and friendship, and social opportunities for service assist the individual.

Concerning immortality, a subject to which Professor Mackenzie returns repeatedly, I note the following points. (1) On the whole,

Professor Mackenzie is sceptical concerning the sort of survival to which the evidence of Psychical Research would point. On the other hand, he is clearly attracted towards the theory of successive re-incarnations, though admitting that the chief evidence, viz., actual memory of previous existence, cannot be tested and that possession of it is claimed much more rarely in the West than in the East. At any rate, the resurrection of one's body is not necessarily part of immortality, though, on the other hand, without the body a great deal of what constitutes a given individual is lost. Yet why should we assume "the persistence of the individual person, with the same characteristics and limitations that belong to him as he is known by others, or even as he knows himself in his ordinary conscious experience?" (p. 448). Clearly this line of thought will sooner or later run up against the formidable problem, how much change is compatible with the assertion of continued identity. (2) Another line of thought starts from the reflection that "the individual who recognizes himself as a member of a spiritual unity could at least hardly seek for any continuance of his own life in separation from the whole to which he belongs" (pp. 340, 341). Such a one is living for the realization of an ideal, and, provided he is assured of the persistence of what he values most, he will not care whether he personally endures forever or not. Thus "the desire for immortality is, at any rate, not purely a desire for individual persistence" (p. 341). (3) And this leads to a third line of thought, viz., the distinction between individual persistence and the eternity of conscious life. Successive re-incarnations do not spell eternal existence. And thus two problems arise, one concerning the meaning of 'eternity'; the other, concerning the relation of individual centres of consciousness to a single, all-inclusive conscious life. But this raises the whole problem of the cosmos, which belongs to Book III. Meanwhile the two poles of Professor Mackenzie's thoughts on immortality would seem to be these: "Some conception of human (and perhaps even of animal) immortality seems to be essential to any optimistic theory of the universe" (p. 386); and "conscious beings aim at persistence, but they aim also at transmutation into higher forms" (p. 387).

Book III is entitled "The Universe as a Whole—From Chaos to Cosmos." Perhaps the most convenient summary of it is to say that it is concerned, on the one hand, to remove the obstacles to the belief that the universe is a "cosmos" or "perfect order," which obstacles are to be found chiefly in contingency and evil; and, on the other, to work out a positive concept of the cosmos, where the chief difficulties are

offered by time and finitude. Throughout the whole discussion there runs, as itself an ever-present source of difficulty, the distinction between the cosmos as a whole and what Professor Mackenzie calls "the human universe, *i. e.*, the universe as at present apprehended by the human consciousness" (p. 349).

"Cosmism" is defined as "the general doctrine that there is a system of reality, which contains both unity and difference" (p. 370). The opposite is Pluralism, where the many independent reals introduce contingency and disorder, *i. e.*, some measure of chaos. But, further, the cosmic system must be "self-explanatory," which it can be only if it is (*a*) all-inclusive, and (*b*) teleological, *i. e.*, if it has value as a whole, and therefore in its parts as essential to the whole. In short, it must be a *perfect order*. The problem is whether this concept of a perfect order is applicable, not to the "human universe," but to the totality of which the human universe is a part—a part defined by the incompleteness of our apprehension. *Prima facie*, the universe as it stands for us, is anything but a perfect order, but if we work on the hypothesis that for a completer apprehension it would be perfect, our inquiry will take the form of seeking partly to discredit the force of the negative evidence from evil and disorder, partly to point to positive features of perfection.

Two comments occur to me at this point. (*a*) It does not seem to me happy, by way of bringing out the incompleteness of our knowledge, to distinguish between the "human" universe and the universe as a whole. It is true that, notwithstanding all science and philosophy, the universe is a puzzle to us much as a man may be supposed to be a puzzle to his philosophic dog. And the man's knowledge of himself stands to the dog's knowledge very much in the same position in which we imagine omniscience to stand to our knowledge. But this does not alter the fact that the puzzlesomeness and mystery are as marked characteristics of our "human" universe as anything which we definitely know; and the very thought of *our* universe as *the* universe incompletely apprehended is, after all, surely a most important extension and qualification of *our* universe. The distinction, then, cannot appropriately be phrased in terms of 'ours' and 'human.' Nor can the stress lie on "known," for if we say with Professor Mackenzie that knowledge consists of well-grounded beliefs, it follows at once that no beliefs are sufficiently well-grounded for philosophy, which can be drawn into the vortex of philosophical dialectics. The "point of view of the whole" has a way of upsetting the stability of beliefs which are well enough grounded to pass as "knowledge" for

ordinary purposes. (*b*) But can 'we' take up the point of view of the whole? Otherwise asked, is the category of 'whole' or 'cosmos' applicable? For answer it may suffice to quote Professor Mackenzie himself from his concluding chapter on "General Results": "The attempt to enlarge our knowledge was found to mean the attempt to think of our universe as an intelligible whole, or as part of an intelligible whole" (p. 464). The category is discovered to be implied in all other evidences of order in the universe, and nonetheless implied in principle for our inability to work it out in detail. Moreover, as Professor Mackenzie himself recognizes, it is not a question of mere abstract dialectics, for religion at its best is explicitly based on the character of the universe as a perfect order.

What, then, of the obstacles to this conclusion? Professor Mackenzie's discussion of contingency and evil does not bring anything which is substantially novel. But the additional testimony of every thoughtful student to the force of certain considerations is of value. Professor Mackenzie goes far enough with the Meliorists to speak of the "general upward movement of the Universe" (p. 445) and to suggest that "in the gradual substitution of the better for the worse, there may be the accomplishment of the highest good that can really be made intelligible" (p. 391). But he steers clear of setting up as an intelligible ideal a world which, in William James's phrase, shall have forgotten the very name and place of evil. "Even in thinking of the best kind of world that we can conceive, it does not seem possible to think of it as absolutely excluding ignorance, pain, and temptation; but as containing these only to be removed and triumphed over" (*ibidem*). Besides, Professor Mackenzie's theory of the relation of time to eternity forbids a concept of cosmic perfection as attainable, once and for all, by a temporal process of reducing evil to zero.

But it remains to say something on this theory of time and the closely allied theory of an Eternal Dreamer or Poet. I approach the task of giving some account of these theories with misgivings, because I am not sure that I wholly understand them. What I get from my study of the relevant passages is something like this. Professor Mackenzie has, as it were, taken as texts for his theory of time two Platonic sayings, viz., the one about time being "the moving image of eternity," and the other about the "spectator of all time and all existence." Between them they suggest a timeless reality unfolding itself in a temporal order of manifestations, and, conversely, the possibility of discerning a timeless reality in the sequence of experiences. Certain empirical analogies are offered by Professor Mackenzie to

make this plausible. "A piece of music has a movement of successive phases, all of which contribute to the significance of the whole. But the piece as a whole does not move. It contains time, but exists eternally" (p. 452). Since a piece of music consists of sounds, one wonders how it can exist when no sounds are actually being produced or heard, yet undoubtedly there is something more to the existence of a piece of music than repeated performances of it. Another illustration seems less appropriate: "A play of Shakespeare contains a record of events that occur one after the other, and would be meaningless apart from that order; and yet the whole record of these events (which never existed otherwise than in that record) has persisted for more than three hundred years, and may be expected to persist for an indefinitely longer time" (p. 381). But indefinitely long time is not eternity. Moreover, ought we not to distinguish between *temporal order*, in which, as Bergson would say, the flow of real time has been "immobolized" and "fixed," and *transience* proper, *i. e.*, the actual coming and going of things in experience? The order, and the place of events in that order, can of course be referred to *at any time*, and nothing more seems to be required for the contemplation of all time. But, metaphysically, it is the actual transience which starts the search for an enduring reality. We certainly get nearer to this by way of Bergson's *durée;* or of memory which keeps the past 'present' in a sense; or of the historical interest which, as we say, 'lives in the past;' or of T. H. Green's argument that the mind which actually experiences a temporal series, cannot itself be an event in that series. To all these suggestions Professor Mackenzie alludes, yet I am not at all clear how they fit together in his theory. The culminating conclusion to which they lead up for Professor Mackenzie is that "our universe" is "a partial expression of that eternal process through which the perfect whole unfolds itself" (p. 444). This abstract formula is filled out more concretely, or at least more picturesquely, by the suggestion that the universe might be taken as "the dream or imaginative construction of a great Spirit" (p. 381), the "thought of an eternal Dreamer" (p. 435). In other passages Professor Mackenzie leaves it open whether one or more Dreamers are involved. The final statement is as follows: "Any conscious experience, it would seem, must occur at some time; and, in apprehending events, it would necessarily apprehend them as successive. But, if we suppose it to be creative, the apprehension of these events would, at the same time, be that which gave them being; just as the consciousness of the author of a tale gives being to the characters that he imagines; and, just as the

being of the latter is eternal, so may be the being of the former. A consciousness of this kind must, however, be supposed to live in its creations, and would thus participate in the time order that belongs to them. We must think of the process, it would seem, as the continuous unfolding of a plan that has eternal significance and beauty, and that leads up to a definite end. The end would presumably consist in the full apprehension of the significance and beauty of the whole. The reaching of the end, it would seem, would imply a return to the beginning. The wheel would have come full circle. The order of before and after would be completed, and the completion would consist in the whole being apprehended as present. It would be at once the end and the beginning of the unfolding order, which in itself would be eternal" (p. 451). This we may round off by a further suggestion: "It might perhaps be conjectured that there is always some spirit occupying the attitude of contemplation of the perfect whole, from which it then descends to take part in the downward and upward path. The abiding One would thus be an attitude or point of view rather than a person; and it would appear that we ought to assume that this attitude could in the end be reached by every real spirit" (p. 438). Here we are unmistakably passing from the realm of well-grounded theory to the gropings of Platonic myth. Still, it is not merely idle to think of human life as "the partial manifestation of the life of an eternal spirit—or perhaps rather of a number of such spirits—having its significance in the gradual attainment of an attitude from which the perfection of the whole can be apprehended and appreciated" (p. 445). I fear there will be little rejoicing in the Neo-Realistic heaven, for the repentance of this Idealistic sinner is clearly only skin-deep.

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*Moral Values, A Study of the Principles of Conduct.* By Walter Goodnow Everett. New York, Henry Holt, 1918.—pp. xiii, 439.

In *Moral Values* Professor Everett has given us what seems to the reviewer the best text-book on ethics that has yet appeared. It is written with great clearness. And this is well, for no text-book in this field, produced in our generation, has reached an eminence which justifies the expenditure of the labor of a body of commentators. In choice of subject matter and manner of treatment it is likely to raise and hold the interest alike of the undergraduate and the general reader. The style is attractive, and many things are exceedingly well said. The author is catholic in spirit and at the same time is very

far removed from being a syncretist. He has sought to embody in his own theory the contributions of different schools of thought, and has succeeded admirably, in the main, in this difficult task. He has shown a sound estimate of the place of historical references in an introductory treatise. Experience seems to demonstrate that the history of ethical thought means little to those who have never faced the problems of ethics through a systematic study of the concrete facts of the moral life itself. The historical material in many text-books probably has little more value in the end than does a list of the kings of England, which some of us were condemned to learn in our youth. Professor Everett has devoted two chapters of his book to the history of the controversy between hedonism and perfectionism. Apart from this he keeps the attention turned upon the moral experience itself, rather than upon résumés of what this, that, or the other writer has chosen to say about it.

Professor Everett's position one would like to characterize as universalistic hedonism of the type of Hume. This, I think, is in essence what it is. But Professor Everett himself would vigorously protest against any such classification. Morality, he says, is a matter of values; and value has two sides which may be called, for want of a better nomenclature, the subjective and the objective. On the subjective side value is pleasure. But the author insists, pleasure is a mere abstraction; it is always found in connection with some content, "the objects or activities in connection with which the feelings arise." "Only if disembodied states of feeling could wander at large quite independent of all other mental content" could value be described solely in terms of pleasure. The whole experience is the thing that is valuable.

In a certain sense all this is undoubtedly true. In this sense no hedonist, as far as I can see, has ever had the slightest idea of denying it. Similarly the color red never appears alone. It is always part of red objects of various shapes, sizes, textures, etc. Nevertheless, if redness supplied the content of value, it would be perfectly intelligible to say that red as such is the good, the other elements of the red object being, from this point of view, indifferent. I think Professor Everett may have failed to see this fact because of one of the greatest excellences of his book. Various more or less plausible objections may be urged against hedonism, but the deadliest is that even if true it is of no great use in practice. The main lines of action are determined, as the author points out, by other methods than the use of the hedonistic calculus, strictly so called. Our ordinary procedure in everyday life,

he writes, is essentially the following. "We allow ourselves to follow the impulse to new activities, provided they do not conflict with already established purposes. The completed whole is achieved by excluding contradictory and discordant elements as we move forward in the direction of the largest meaning which, from day to day, we are able to discern." That these impulses must not be accepted in the uncritical way demanded by the so called 'voluntaristic' writers, is one of the most fundamental contentions of the book. On the other hand the information that only those impulses are worth adopting that promise some sort of pleasure, either in pursuit or attainment, gives us little help in the actual conduct of life. What the students in an ethics class want to know is what particular modes of activity are valuable, what concrete (or "objective") ends are worth pursuing. In a chapter which if it contained anything really new would probably be in so far false, Professor Everett gives the undergraduate the best discussion of this subject that he will be able to find in any text-book.

The relationship of a writer of the type of Professor Everett to his intellectual ancestors seems to me to be something more than a mere matter for the quarrels of pedants. As a matter of fact ninety out of every hundred teachers of ethics in the English-speaking world today are, in essentials, members of the school which began with Shaftesbury, and which counts Hutcheson, Hume, and Adam Smith among its most illustrious members. This statement holds for Green and his followers, who can not too much express their scorn and contempt for these "superficial thinkers," just as truly as it does for a man like Professor Westermarck. To call these founders of our modern faith intuitionists, as Professor Everett does, and to contrast their position with an empirical or "historical" view is hopelessly confusing. The moral judgment is the reaction of the personality to a suggested end or aim. According to ethical rationalism this reaction has its source in reason. According to Professor Everett, if I understand him, this reaction has its source in the sympathetic and aesthetic emotions. The latter view is that of Shaftesbury, the former of Hume. Both of these men undoubtedly left much to be said on this subject. It is for their descendants to fill up the lacunae. They both, especially Hume, said much which their followers have not taken the trouble to assimilate. The latter will be more likely to get what may be had for the asking if they are fully cognizant of their relationship to their intellectual ancestors. Some of the most unfortunate gaps and inadequacies in Professor Everett's account of the moral life—gaps and inadequacies which are such from the point of view of his own general

standpoint, are matters which were discussed and in essence settled by the eighteenth century members of the so called 'moral sense' school.

There are two categories of which ethical theory is bound to give an account, namely, the good and the right. Either the one or the other is ignored, as far as any systematic discussion is concerned, in a very considerable proportion of the works on ethics. The result, of course, is that the omitted category appears sooner or later without having been compelled to give an account of itself, and usually much the worse for the immunity. *Moral Values* differs from such books in that it gives an equable share of attention to the study of both terms. With regard alike to the good and the right two questions can be asked, and they form the fundamental problems of ethics: What things are good, and what right, and what is the meaning of the terms good and right? The latter problems are constantly ignored in standard works on ethics. Yet they are absolutely fundamental, and no theory can proceed more than a step without assuming some solution. According to Professor Everett those actions are right or moral in which, where a choice is necessary, the less inclusive interest is subordinated to the more inclusive interest, whether of self or another. But now the question is inevitable: What is the meaning of the word right in this statement? Some writers take up this problem under the form of the source of moral distinctions. Unfortunately this fundamental question is nowhere discussed in a systematic way under any form in *Moral Values*. The same is true of the category of the good. We are indeed told that good is not the equivalent of an attained desire. Is it then entirely unrelated to desire? Is it, for example, what Sidgwick makes it in the first five editions of the *Methods of Ethics*, an unanalyzable concept of reason? Or is it what he makes it in the sixth edition? Or is it something different from either? Logically, and to a considerable extent practically, no satisfactory answer can be given to the question, what elements of experience are good, until we know what we mean by good, or in other words, till we know what we are driving at. This statement applies equally to the term right. It is indeed possible to show roughly by induction what modes of conduct a given society regards as morally praiseworthy. But the further question (a question in which Professor Everett is greatly interested) whether in this welter of conflicting opinions anything whatever is ultimately right cannot be answered without a clean-cut conception of what is meant by the word right. Professor Everett succeeds in reaching his solution of the problem only by ignoring or brushing aside a large body of recalcitrant facts.

These limitations, though serious, are however the limitations, in a greater or less degree, of all the text-books; and they are balanced in *Moral Values* by manifold excellences. Some of the best treatments deal with the following subjects: The place of pleasure in the judgment of value, the actual process by which our concrete judgments of (objective) value are formed and the content of these judgments, the value of character as both instrumental and intrinsic and the relation between the two, the place of altruism in the moral life, and finally (nothwithstanding its limitations) the universality and authority of the moral ideal.

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*Platonism.* By PAUL ELMER MORE. Princeton University Press, 1917.—pp. ix, 306.

Hitherto the author of *Platonism* has been known chiefly as the editor of the *Nation* and as a man of letters. In these lectures, delivered at Princeton University towards the close of 1917 under the provisions of the Louis Clark Vanuxem Foundation, he has given us the fruits of the scholar's patient labor in a more technical and less popular field. The matters discussed in the volume include nearly all of the traditional and more difficult problems of Platonism, with the exception of the chronology of the dialogues. The author's views of the logical (and to a certain extent the chronological) sequence of Plato's writings are summarized at the conclusion of the book, with here and there an interesting argument concerning the articulation of the writings in time or thought. The volume is occupied mainly with the relation of Socrates to Plato, the Platonic psychology, the doctrine of ideas, the cosmogony and metaphysics. Only incidental attention is paid to Plato's theory of the state or the mechanism of government or to his views of education as a system.

More approaches his subject from a fundamentally Graeco-Roman pragmatic point of view, the view of Socrates and the great ethical schools succeeding him, and to a large extent the view of Plato himself, that philosophy is an *ars vivendi*, a body of maxims, principles, and intuitions essential for the successful conduct of life. He has less interest in the purely scientific, metaphysical or theoretical aspect of thought. He defines philosophy as the "sincere and humble endeavor to make clear and precise to ourselves the fundamental facts of our conscious life. . . . Its method and its truth are summed up in the three Socratic theses—scepticism, spiritual affirmation, and the paradoxical identification of virtue and knowledge" (p. 232).

He distinguishes between philosophy and metaphysics, the former being rooted in morality and the practical reason, the latter in the theoretical reason. "Metaphysics differs from philosophy in this, that it essays to give a consistent explanation of the *rerum natura*, including our consciousness, in the terms of pure reason, thereby playing false to the law of scepticism and affecting a rational reconciliation of the Socratic dualism" (p. 232). There are probably few historians or students of philosophy who would accept this definition as satisfactory or agree with More in the distinction he draws between philosophy and metaphysics. The distinction is, however, useful for the author's purpose, who is concerned primarily with a study of "the origins and early environment of Christianity" (p. v), and to this inquiry the present volume is propadeutic. The author plans a series of volumes dealing with such further subjects as the "English revival of philosophic religion in the seventeenth century and the rise of romanticism in the eighteenth."

More brings to his task a wide range of reading (the use he makes of illustrative material recalls the manner of Gomperz), his gifts as an expositor are of a high order and his points of view are frequently novel, sometimes courageous, and always interesting. The translations of passages from the Dialogues deserve especial mention, so striking is the felicity of word and phrase combined with exactitude of meaning. One notes, however, here and there a journalistic touch, as, *e. g.*, the somewhat exaggerated characterization of Aristotle's ridicule of Xenocrates (p. 227) or the note on Natorp (p. 261) or the controversial remarks on Gomperz (p. 10) or the reference to Campbell (p. 217).

In respect of most of More's intepretations of Plato, I find myself in essential agreement. There are some minor details that challenge question. In the first chapter he discusses what he entitles the three "Socratic theses," these being "intellectual scepticism," "spiritual affirmation," and the "identity of virtue and knowledge." What is here called "intellectual scepticism" might better be denominated the spirit of doubt or criticism, the examining, testing attitude of mind with which Socrates approached philosophy and which marked the method of St. Augustine and Descartes. The seeds of the scepticism of the later Academy or of Pyrrhonic thought are found in the Sophistic doctrine of relativity. While the Socratic dialogues are nearly all *peirastic*, they end not so much negatively as inconclusively. They are criticisms and exemplify the Socratic maxim that "the unexamined life is not worth living." His quest ended in the positive and universal

concept. Throughout the volume More lays a greater emphasis on the sceptical phases of the thought both of Socrates and Plato than is warranted by the Dialogues; I am not forgetful of his defence of the principle of negation (pp. 146 ff.). It is the affirmative and positive aspects of Socrates's thought that constitute his chief influence on subsequent Greek philosophy, and these are the only phases that Aristotle considers worthy of comment. The element of doubt or criticism is not so much a part of his doctrine as it is a phase of his methodology. The 'ignorance' of Socrates is the confession of an inquirer, not of a sceptic, and certainly not of an agnostic. The development of the mind and philosophy of Socrates, as I read Plato, exhibits the following essential aspects: (1) Criticism, the examination of the foundations of belief without the bias of dogmatic prepossessions. While the mental attitude here is that of doubt, it is not negation, which would logically cut short the search at the very outset. (2) Mysticism or intuition of the basic realities of morality and religion. With the mysticism of Socrates, as set forth in the Apology, the Crito, and throughout the lesser dialogues, there is joined in this affirmative-minded idealist the will to believe. (3) The transcendence of the relativity and scepticism of the Sophists by the universality of the concept and the establishment of the adequacy of reason as the sole guide of life. (4) The identification of the maxims and principles of reason with the bases of morality. As I understand the Dialogues and the history of the Socratic schools, Socrates was not only more of a rationalist than More pictures him, but he was less negative both in his thought and his influence.

The Platonic Quest, as characterized by More, is the "justification of spiritual insight before the bar of reason" and the determination of the relation between this knowledge and happiness. In this connection More finds occasion to analyze important portions of the *Republic* and to discuss, in a summary way, the various forms of government in their relations to ethics. The description of the Platonic aristocracy as "really a democracy governing itself by respect for what is best in human nature" (p. 71) is somewhat misleading, in view of the fact that the artisan and productive class is disfranchised in the Platonic state. Evidently More has in mind merely the democratic spirit and communism within the governing classes.

In the chapter on Plato's psychology the author illustrates his commentary by many references to the writings of modern theologians and philosophers. Particularly interesting is his comparison of the views of Jonathan Edwards on the will and its freedom with Plato's

theory of the *thymoeides* (which is a better term than *thymos* when reference is made to the faculty). But is there any such thing as will in Plato's terminology that is analogous to 'will' in the traditional faculty psychology? Both *thymoeides* and *epithymetikon*, the faculties respectively of the higher emotions and crass desires, have an activity value, a propulsive function, while to the reason is attributed attention, selection and an epitactic force in its practical conclusions, all of them functions of the so-called faculty of will. All of the Platonic faculties are thus endowed with will characteristics, but taken singly no one of them possesses all the marks which later philosophy and theology employed to describe the 'will.' Nevertheless when Plato describes the *thymoeides* as the executive ally of the reason, it is clear that he is thinking of this mental agency in a way to some extent analogous to our common use of will, but lacking the important element of discrimination and selection which attach to the reason. The faculties are arrayed by Plato as opposing forces in a dual alignment, with reason and the 'spirited element' on one side, and the concupiscent element on the other, corresponding roughly to ruler and subject, mind and body, good and evil. The reduction of these forces to complete harmony is justice, while the minor harmony of obedience of the concupiscent and subject element to its rulers is temperance. The freedom of the will falls outside the problems and terminology of the Greek philosophers of the classical period. The freedom of the individual is vested in the self-determining prerogative of reason, in which Plato puts the center of gravity of personality, and he explicitly states the doctrine of ethical responsibility. When one reads Plato's description of the several faculties (or as he calls them "parts" (*μέρη*) of the soul) and their disparate functions, their separate anatomical seats and the exclusion of the lower part from preëxistence, it is difficult to concur with the following: "In view of this persistent dualism [*i. e.*, reason and passion, good and evil] it is clear that the three faculties of Plato's psychology are not independently coöperative powers, but merely different phases, sometimes sharply dissociated, sometimes merging into one another, of the activity of what we may call, using a terminology strange to Plato, the personal element of our being" (p. 123). Plato's view of the unity of personality does not appear to have been so clear as that.

The least satisfactory and informing part of the volume is the chapter on the Doctrine of Ideas. The grounds for the distinction which the author draws between intellectual and ethical ideas are not very plain, nor, as I understand the Dialogues, is the distinction

as here employed defensible. "The Ideas of Plato, then, fall under two main categories, which may be designated as the rational and ethical (p. 167). . . . We must set apart notions derived from the similarity perceived in a group of objects or from quantitative relations. With these must be placed also those æsthetic and ethical notions which are equally derived by generalizing from observation, and which include ugliness as well as beauty, unrighteousness as well as righteousness. All these are Ideas in a way and have their own reality; but they are intellectual in their origin and pertain to the scientific rather than to the philosophic life. The difference lies in this, that in the procedure of science we are interested in acquiring a knowledge of the ideas, whereas in the procedure of philosophy we are interested in possessing the ideas themselves. Ideas, as Plato was supremely concerned in them, and as they constitute the essence of what the world has rightly known as Platonism, are not derived intellectually, but are an emphatic assertion of the unchanging reality behind moral forces, a natural development of the Socratic affirmation of spiritual truth" (pp. 177, 178). The significance of "possessing the Ideas themselves" is apparently that these ethical ideas are transmuted into convictions or become in a peculiar sense personal and affect our being and conduct, whereas the function of the ideas of the intellectual category is exhausted in knowledge or theory. If this is the meaning, the distinction is of questionable validity. Certainly Plato's general theory of the world structure, his metaphysics and cosmogony, is not thus divorceable from his ethics. On the contrary, his views of the moral life in the individual and the state have their roots in his general theory of reality, and similarly the entire system of Stoic ethics is unthinkable apart from its pantheistic setting or, in other words, apart from metaphysical or intellectual ideas. Reality is 'of a piece' and it is not possible to separate ethical and intellectual notions into completely watertight compartments. Further, it is not quite plain how these ethical ideas are "an emphatic assertion of the unchanging reality behind moral forces." Such assertion must find its justification in the deliverances of the discursive reason or intuition.

In defining the Platonic ideas as "imaginative projections of the facts of moral consciousness" (I would omit "moral"), More gives us a very suggestive point of view. This part of Chapter VI was evidently written *con amore* and is on a lofty plane both in its philosophical insight and its literary expression.

One of the most interesting parts of the volume is the recondite discussion of that intricate puzzle, the *Parmenides*, in the chapter on

Metaphysics. No satisfactory résumé of More's analysis of the eight theses could be given in this brief review, but the conclusion he reaches is that the Dialogue demonstrates the inadequacy of the discursive reason to solve the antinomies of the One and the Many or to establish rationally the Doctrine of Ideas. In spite of this inadequacy of the discursive reason, Parmenides affirms the reality of the ideas "as a necessity of inner experience." The Dialogue is, therefore, not an attack of Plato against his own doctrine, but a defence of it.

The lectures are a very valuable contribution to the literature of Platonism (they are entitled to an index), written with a broad and deep concern for the issues of life, and illuminated by a wealth of pertinent reading. An expectant interest will await the continuation of the series planned by the author.

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*The Use of Φύσις in Fifth-Century Greek Literature.* By John Walter Beardslee, Jr. University of Chicago Press, 1918.—pp. 126.

This Chicago dissertation contains thirteen chapters: I, Introduction; II, Homer, Pindar, Æschylus; III, The Pre-Socratics; IV, the Sophists; V, Herodotus and Thucydides; VI, Poets of the Later Fifth Century; VII, The Hippocratica; VIII, *κατὰ φύσιν* and like phrases; IX, *περὶ φύσεως*; X, *φύσις* and *νόμος*; XI, Periphrasis; XII, "Element"; XIII, Plato and Aristotle—A Supplementary Chapter. There are added a bibliography (six titles) and two indices, one of passages, one general.

The request of the editor of this *Review* for a notice of this dissertation has induced me to return to a subject which I had hoped to have laid aside for good and all. For nearly fifteen years it has been in my thoughts and all pertinent passages in my reading have been noted, with a resulting accumulation of thousands of notes, which I shall never use directly. Probably I have given the matter more consideration than any one else, but I am far from having arrived at satisfactory conclusions on all points. Mr. Beardslee will not take it amiss, therefore, if I feel bound to say that there is much in his dissertation with which I cannot agree; if he is at all like me, he will be his own severest critic, revising his judgments continually as his scope enlarges. This does not imply that his work is poorly done; quite the reverse. The dissertation under review is in many ways exceptionally good. But a work such as this rests ultimately on interpretation, and the work of interpretation is never finished, since it involves, in addition to the constant, which is the text or group of texts in question, the variable

element of the apprehending mind. A scientifically constituted mind admits of no term to its growth but death. It is actually a pleasure to me to find Mr. Beardslee, in chapter XII, demolishing my concessions to Professor Burnet in regard to the meaning of φύσις. To be sure my own shelf-copy of my Περὶ Φύσεως bears eloquent testimony that the evidence of the falsity of some of my statements in question was collected and duly appraised long before my critic presented it—and presented it less fully than he might have done.

Mr. Beardslee's dissertation seems to have undergone a certain change in its purpose and method since its inception. Begun, apparently, as a lexicographical study of the term φύσις on the basis of a chronological arrangement without reference to a speculative reconstruction of the history of ideas, it has in course of time been somewhat diverted by the attention of its author to the various attempts to trace the meaning of the term in speculative thought. For example, the final remark of chapter XII seems to me to fall quite out of the scope of the author as he defines it in his Introduction. No doubt it is impossible to content oneself with merely grouping phenomena, and one will draw up, mentally at least, a *stemma*, however much one may think the contrary. I suspect that Mr. Beardslee, like others, has taken my table of the uses of φύσις more seriously than it was intended, and perhaps he was not so fully conscious as one could wish that the aim of my Περὶ Φύσεως was to study a concept rather than a word, the latter being in a sense only incidental to the former. As a warning to would-be historians of thought, of the get-rich-quick variety, who hope by thumbing dictionaries and consulting dissertations to attain what must always be the product of the historical imagination schooled by much study and fructified by acquaintance with all the available evidence, it should be said once for all that the use of such a work as Mr. Beardslee has given us is to serve as a collection of data, which the historian must himself interpret and appraise.

I have said that there is much in Mr. Beardslee's book with which I do not agree. A few examples must suffice. His interpretation (p. 15) of Diogenes of Apollonia, fr. 2, τῇ ἰδίᾳ φύσει is quite unintelligible to me. What does Mr. Beardslee mean by qualities, above all by primary qualities, as applied to Diogenes? Do they differ from the 'constitution' of the thing by which I interpreted the 'Wesen' of Diels? How Diogenes, a would-be strict monist, could refer to 'primary' qualities, except in a sense most superficially modern, one would like to know. Again in his discussion of Empedocles, fr. 63 (p. 86 *sq.*), Mr. Beardslee has ignored the various theories of pro-

creation current in the fifth century, on which I have had something to say at various times, *e. g.*, *Harvard Studies*, XXV, p. 157 *sq.* A fuller and more careful reading of fifth-century thought will help him to a better understanding of the pre-Socratics.

Mr. Beardslee refers (p. 48) to my note on Heraclitus, fr. 1, in Περὶ Φύσεως but overlooks the later discussion[1]. The phrase κατὰ φύσιν, like other phrases, tended to become stereotyped by catachresis, and in time lost color; but obviously this is not one of those instances. My reading of Hippocrates and Herodotus has taught me much, though more remains to be learned. Hippocr. π. παρθενίων. 1(8.466 L.) ἢν μὴ γνῶ τὴν ἐν τῷ ἀμερεῖ <φύσιν> κατὰ τὴν ἀρχήν, ἐξ ἧς διεκρίθη (which, like every one else, I misinterpreted in *Harvard Studies*, XXV, p. 174 *sq.*) means, 'unless one knows the constitution of a thing in the collective state, each constituent in its several reservoir, from which it was derived.' That is to say, κατὰ τὴν ἀρχήν is distributive. Sometimes one has the plural, as in κατὰ τὰς πηγάς, π. νούσων, Δ 34 (7.548 L.), which means 'each humor in its several reservoir.' Herodotus also (2.79) says κατὰ μέντοι ἔθνεα οὔνομα ἔχει, 'each tribe has its peculiar name.' So too, Heraclitus, I believe, meant, 'distinguishing things, each according to its kind (with all that 'kind,' γένος or φύσις, meant to the Greek), and telling how it is constituted. He proposed to put in practice the method which Plato, *Pol.* 286 d describes as τὴν μέθοδον αὐτὴν τιμᾶν τοῦ κατ' εἴδη δυνατὸν εἶναι διαιρεῖν. *Cf.* Marcus Aurelius 1. 16. 9 ἀλλὰ πάντα διειλημμένα λελογίσθαι, ὡς ἐπὶ σχολῆς, ἀταράχως, τεταγμένως, ἐρρωμένως, σαμφώνως ἑαυτοῖς, which may well be a Heraclitean reminiscence of the imperial Stoic.

Mr. Beardslee (p. 13) overlooked also my later discussion of Empedocles, f. 110.[2] There I showed that in αὐτὰ γὰρ αὔξει ταῦτ' εἰς ἦθος ἕκαστον, ὅπῃ φύσις ἐστὶν ἑκάστῳ the word αὔξει is a corruption of ἄξει, and that the interpretation of the passage must proceed from the recognition that we have two (somewhat mutilated) imitations of it in Lucretius (1.400 *sq.*; 1.1114 *sq.*). My note requires some minor corrections, which I hope later to supply; but there seems now to be no good reason to doubt that Empedocles meant that, once the general principles of his system were understood, 'things would of themselves lead the investigator each to its own demesne, where each has its native heath.'

I will discuss one more passage which Mr. Beardslee classes (p. 20) along with other supposed instances of 'φύσις as a general term to in-

[1] *Proceedings of the Amer. Acad of Arts and Sciences*, 48, p. 659 *sq.*

[2] *Proceed. Amer. Acad.*, 48, p. 726 *sq.*

clude all the characteristics and qualities of an object,' which he calls the "natural history" use of φύσις. The name is not ill chosen, but the definition is surely faulty. Herodotus 3.22 is much too instructive and too important for the history of science to be so dismissed. I had noted this passage and seen its significance before I wrote my Περὶ Φύσεως, but by a curious slip mislaid and forgot my note. Cambyses, so the story runs, sent certain Ichthyophagi as embassadors to the king of the long-lived Ethiopians, to spy on his realm under cover of a pretended mission to deliver honorific gifts, a purple robe, a necklace and bracelets of gold, a flask of ointment, and a cask of date-wine. The canny king was not deceived, but on receiving the gifts he asked the embassadors certain questions. Regarding the purple robe he inquired 'what it was and how it was made,' and they told him about the purple and *the process of dyeing*. After an inquiry as to the use of the articles of gold, the king turned to the ointment, and was informed about the manner in which it was prepared (its ποίησις) and how it was to be used (ἄλειψις). In like manner he asked about the preparation (ποίησις) of the wine. The question of drink led to that of food, and he next asked what the Persians ate, and learned that their staple food was (wheat) bread. The embassadors then explained to him the φύσις of the wheat. This is the use of the word in question. Mr. Beardslee, as has been stated, finds in it merely an instance of φύσις as a general term to include all the characteristics and qualities of an object. Of course he is mistaken. The φύσις of the wheat, about which the king made inquiry and received information, runs directly parallel to his question regarding the purple robe, 'what it was and how it was made,' and to his inquiries regarding the ποίησις of the ointment and the wine. A careful reading of the chapter suffices to show that question and answer relate to *how the wheat was grown* (*grew*). But assurance becomes doubly sure when we read that the king added the taunting words, that he wasn't surprised that the Persians' term of life was so short, seeing that they ate dung; which shows that his informants are supposed to have explained to him the process of fertilizing the soil for the growing of wheat. It is not difficult to see in this taunt a close parallel to the doctrines of Anaxagoras regarding nutrition and also to his paradoxical pronouncement that snow is black because it comes from (black) water.

But it is not to Anaxagoras that we are to look for this bit of 'natural history.' The important thing to note about the whole episode of the expedition of Cambyses against the long-lived Ethiopians is that it is purely fictitious, and undoubtedly comes from a history of Persia

deep-dyed in the utopian and scientific speculations of the early Milesians. Whether Herodotus's source was Hecatæus or Dionysius, I do not undertake to decide. It can hardly have been anyone else but one or the other of these historians, who lived at the turn of the sixth and fifth centuries. The other 'natural history' uses of φύσις in Herodotus, particularly those in Book II, are equally important; for I hope ere long to prove that the whole substance of Herod. II comes from Hecatæus of Miletus. Mr. Beardslee's study of these instances of φύσις is quite unsatisfactory, but it would require too much space to show this in detail. The one instance I have chosen does, however, suffice to show what the early Milesians meant by natural history, and what was implied in their inquiries into the 'what it is' or the φύσις of a thing.

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*Herbert Spencer*. By HUGH ELLIOT. New York, Henry Holt and Company, 1917.—pp. vi, 330.

The question as to what are to be the guiding motives of governmental policy in the future has led Mr. Elliot to produce what is perhaps the best brief account of the Spencerian system. The book is not a 'war book,' yet its production was occasioned by questions which have been forced into prominence by the war. It was the occurrence of the war also that suggested to the author a new order of importance for Spencer's works, bringing, as it does, the social and political theories to the front and relegating to a status of relative unimportance his more technically philosophical and scientific theories. The author's relation to Spencer was that of "dogmatic discipleship" when he first read the whole of the works through while in service in the Boer War. But the trend of political activity in England since that time appeared to render the realization of Spencer's views hopeless, so the discipleship tended to apathy. For, "we are no longer drifting slowly along the placid stream of social reform. . . . Circumstances have driven us headlong to a consummation which in many spheres touches the limit to which previous legislation was gradually progressing . . . ; it [the State] has now overtly proclaimed its complete authority over the persons and the incomes of every individual subject to its control" (p. 6). The question whether this is a satisfactory social policy has led the author to reread Spencer's works during the present war, for this is "the question which Spencer's philosophy endeavors to decide" (p. 7).

Chapter II devoted to the "Life," and Chapter III to the "Char-

acter," show Spencer as stubbornly honest and sincere, an individualist of the most pronounced type, whose mental vision was profound but narrow, perhaps because of an imperfect training and the fact that he grew up in what Professor Royce has called "sturdy, old-fashioned British liberalism." It is no doubt true that Spencer's work and character display much of what is best in English culture; still it is difficult to avoid the feeling that the author's "dogmatic discipleship" has betrayed him into overdrawing the estimate. For, while it is true that his "scientific and evolutionary writings have already become part of the 'atmosphere' of modern thought" (p. 2), the statement that "the whole of modern thought is founded, consciously or unconsciously, on Spencer's work" (p. 76) will appear to many as somewhat extravagant.

Chapter IV outlines the "Philosophy." There are two fundamental ideas around which Spencer's thought revolves. One governs his philosophical and scientific works, and is stated in the formula of universal evolution. The other, the principle of his social and political writings, is that of Liberty, and is formulated as the principle of Justice: "Every man is free to do that which he wills, provided he infringes not the equal freedom of any other man" (p. 121). Two other theories are given as basic to his social and political works—the necessity for peace and the limitation of government functions. These were entertained "long before he ever heard of or knew the meaning of, the word 'sociology,'" and were developed in his mind through his activity "in his early years as a political agitator" (p. 85). And this is characteristic of his method throughout, which is deductive, beginning in every case with predetermined opinions, while the inductive evidences are gathered later. "He had not the spirit of the observer, who can amass isolated facts and slowly evolve a theory to connect them" (p. 90). This chapter would have to be regarded as an inadequate statement of the 'philosophy' of Spencer were it not supplemented by Chapter VIII on "Metaphysics and Religion" and Chapter IX on "Evolution," which may be given here and the whole thus formed related to Chapter XI on "Psychology." From this point of view truth and reality seem to be results caused by the functioning of mental processes. Reality is a state of mind that cannot be 'got rid of,' and the problem of the nature of truth is confused with the problem of the test of truth. Moreover, evolution is a philosophical concept rather than a scientific principle. In the consideration of all opinions on any subject, neglecting all 'negative instances,' the truth appears as what is left. If of what is left we cannot conceive the

negation, the result is the Absolute truth, or the Unknowable. Human interests are, however, concerned with Relative truth, and in this sphere thinking is relating, a conception which, as it seems to me, would, if followed consistently, have relieved Spencer of his entire negativist metaphysics. Spencer attempts a reconciliation of religion and science which, as the author remarks, plays fast and loose with popular conceptions. His metaphysics is a "tissue of meaningless verbiage" (p. 223) which leans heavily on popular theology, and "is not wholly free from the suspicion of playing to the gallery" (p. 228). It yet remains true that the conception of evolution as a principle of unification of the sciences has had great significance beyond any use that Spencer made of it (in logic, for instance), and that the description of the functions of mind as the "adjustment of internal to external relations" has been for psychology a fruitful suggestion.

The three chapters—V, "Introduction to Spencer's Social Writings;" VI, "General Summary of the 'Principles of Sociology';" and VII, "General Summary of the 'Principles of Ethics'"—may be taken together as the author's outline of Spencer's social philosophy. There are two types of society, depending not upon the form of government but upon its function. And, I must add, this division depends not upon the qualities or directions of governmental functions, but upon the extent to which they are permitted to operate. Much government means war with all its attendant miseries; little government, or government restricted to police power, guarantees peace with the prosperity of industry, and individual freedom. These are respectively the military and the industrial types. The military type is divided again into the purely military where the organization is perfected for purposes of war, and the socialist military, organized in the interest of welfare. The military and the industrial types are regarded by Spencer as antagonistic; but the author points out that modern Germany is just the fact that explodes the theory upon which the classification is based, since Germany has advanced equally in the directions of militarism and industrialism, both under the increased extension of state functions. Spencer applies the 'little government' test to the movements for national education, the post office, public sanitary inspection, etc., and finds that these ends can be best accomplished by leaving them to private enterprise, the test being the cheapness and efficiency with which they are provided (p. 121). The author points out that universal education has not brought peace, but that after a half century of compulsory education the peoples of Europe have rushed into the most disastrous war of all history (p. 103).

As against the movement for 'social reform' the following quotation will show the characteristic attitude. "The reformers . . , did not anticipate that universal reading would call into existence an enormous flood of villainous literature and journalism, by which for a few halfpennies the people would be enabled to debauch their minds to the lowest pit of degradation. By arguments such as these did Spencer attempt to defend his views. Nor can they be dismissed with the contempt that it has long been fashionable to pour upon them. For what was the alternative? If there had been no compulsory education, the bulk of the people would still have been educated in private schools. Only the surplus of the population would have remained unable to read or write; and there are only too many occupations where reading and writing are unnecessary. The immense taxation on account of education would have been non-existent, and the money so saved would have gone to stimulate industry and added to the capital of the country" (p. 104). A typically abstract Spencerian argument which follows shows that, as between liberty and equality, in the interest of having public functions efficiently and cheaply performed, the latter must give way to the former, although the author allows that the argument is not as applicable to present conditions as to those of Spencer's day.

In Chapter VI the author proceeds with the statement of the social theory as worked out in the "Principles of Sociology." A brief account of the familiar 'ghost theory' calls for the pertinent but also familiar criticism that it is but one of the factors in the origin of religion and of other primitive forms of organization, and that the doctrine of the primitive mind involves a reconstruction of it in terms of the modern mind. The distinction between the military and the industrial orders is here pushed further to show that the military order is effected through the principle of compulsory coöperation, while in the industrial order the principle is industrial coöperation. Yet in the latter case coöperation is not the result of conscious intention (p. 155), nor is the wealth accumulated by industry based upon the subordination of classes, but upon free contract (p. 157). Nor is the evolution of forms of organization due to conscious purpose (p. 174) but to the mechanical working of natural laws. In the ideal industrial state "such orders as are issued, or laws as are passed, are negative rather than positive: they prohibit certain actions by citizens, but do not lay upon the citizens any injunctions for positive action" (p. 162). The powers of government will be restricted to the maintenance of justice and internal order, while other functions will be taken over by

private organizations. The ideal result will be the cessation of war. The author's criticism here is final. Spencer's principle is too simple for the vast complexity of fact, and represents rather his personal sentiments than any real generalization (p. 165).

Chapter VII as an analysis of the "Principles of Ethics" concludes the discussion of the social theory. The discussion emphasizes one of the more important aspects of the "Ethics" in its tendency to relate closely ethics with politics. It finds that the ethical doctrine suffers from the bad psychology of its day; that instead of pleasure being the motive for action, the motive far oftener is to be found in fixed ideas due to suggestion (p. 184). Morals are considered from the physical, the biological, the psychological, and the sociological points of view. Physical conduct conforms closely with the principles of mechanical evolution. In his biological treatment he finds justification for the pleasure-pain theory. Psychologically, conduct is estimated with respect to the various grades of pleasure induced by the control of lower feelings by higher. The author remarks that although Spencer argues that 'higher' states are artificial and badly adapted, he yet assumes that in the primitive mind they control 'lower' states in the building up of moral concepts, and that these are passed on through inheritance. From the sociological point of view the principle required by evolution is that of the gradual subsidence of the powers of the state, whose operation begins within the primitive state of constant war and ends with the reign of perfect peace—the misty atmosphere of the realm of Absolute Ethics, where the Spencerian formula of Justice is eternal law. The analysis of the virtues, of the ethics of individual life, of negative and positive beneficence, confirms Spencer's faith in his predetermined scheme of individualism and mechanical evolutionism.

The "Principles of Biology" is outlined in Chapter X, and of the two chapters that remain, Chapter XII gives an account of the "Education," which is accurate and satisfactory as to fact, but perhaps slightly overdone in point of estimation. It is certainly true that the book has had a wide and profound influence, but the statement that "more than any other single textbook it is the foundation of all the so-called 'modern' ideas in education" (p. 292) will seem to many rather extreme. Chapter XIII rightly emphasizes the greatness and power of Spencer's mind, argues that his work at present is underestimated, and closes the book with what sounds very much like a sigh for the return of the good old days of unrestricted individualism.

It has been Mr. Elliot's purpose "not only to furnish an account of the outlines of his system of thought, but to indicate the attitude of modern knowledge with regard to it" (p. 91). The first part of this purpose has been accomplished admirably. And if Mr. Elliot means by modern knowledge what has been incorporated in the generally recognized literature of philosophy and science he has also succeeded in his latter purpose. For there are none of the criticisms that he offers which, I think, have not been worked out in detail by Spencer's earlier critics. But if in modern knowledge Mr. Elliot would consent to include the thought of the past decade or even that of the period of the war, then, it seems to me, he has not touched the real import of Spencer's thought for present problems, so that the occasion that called forth the book has not been taken full advantage of. It is of course safer to test a social and political scheme by historic standards, and it is satisfactory when the purpose is merely to describe what is. But such a method has the disadvantage of not appreciating present tendencies, which are the index to the future. It is for this reason that we often find, after it is too late, that the unexpected has happened. It would be interesting to wonder what re-interpretation Mr. Elliot would care to make with respect to the events that have happened in England since his book was written, a little less than two years ago. It seems to me that modern thought is justified in putting to the Spencerian scheme of atomistic individualism and mechanistic evolutionism some really vital questions which cannot be answered by reference to any existing standards. The first and most fundamental of these is whether it is not necessary, in view of recent world events, to create a new standard or fundamentally reconstruct the old. Again, if the course of human evolution is not responsive to conscious guidance or at least modification, then what does *purpose* mean, in the social or political sense? And why did Spencer waste so much effort in the attempt to breast the flood of 'social reform' if human affairs are altogether subject to natural law? How shall we get voluntary coöperation as the ideal of the industrial state in a world bound hard and fast by mechanism? And is not voluntary coöperation just what we do *not* get in an order of atomistic individuals? I find it difficult to conceive a human imagination capable of no more rational purpose than is expressed in cheapness and efficiency. Nor do I understand what 'free' contract means where the advantage is guaranteed all on one side by a system of law which tends to recognize no right but the right of property. A 'social order' in which there are many occupations that do not require a knowledge of reading is be-

yond my comprehension unless it acknowledges slavery. So also is a 'synthetic' philosophy which rests on a basis of social atomism, except by the apotheosis of the idea of things as they are. There is still validity in the age-long demand that men live together as brothers upon the principle of rational coöperation which is the opposite and the contradictory of 'free contract' and cut-throat competition.

E. JORDAN.

BUTLER COLLEGE.

# NOTICES OF NEW BOOKS.

*A Short History of Science.* By W. T. Sedgwick, and H. W. Tyler. New York, The Macmillan Company, 1917.—pp. xvi, 474.

In the preface we are told that "this book is the outgrowth of a lecture course given by the authors for several years to undergraduate classes of the Massachusetts Institute of Technology, the chief aims of the course being to furnish a broad general perspective of the evolution of science, to broaden and deepen the range of the students' interests and to encourage the practice of discriminating scientific reading."

"There are of course excellent treatises on the history of particular sciences, but these are as a rule addressed to specialists, and concern themselves but little with the important relations of the sciences one to another or to the general progress of civilization. The present work aims to furnish the student and the general reader with a concise account of the origin of that scientific knowledge and that scientific method which, especially within the last century, have come to have so important a share in shaping the conditions and directing the activities of human life. . . ."

"It has naturally been foreign to the purpose of the authors to admit matter too technical for the general student or, on the other hand, too slight in its influence on the general progress of science. The division of responsibility between them corresponds roughly to that implied by the title 'mathematical' and 'natural sciences.' . . . No attempt has been made by the authors to follow an encyclopedic plan, under which all fields should receive proportional space and treatment, each by a competent representative, but some fullness of presentation has been aimed at in the particular branches with which they are themselves familiar, with briefer indication of developments along other lines."

As far as the authors have carried out this admirable program the book is indeed a most useful and interesting text for the student; but the program is unfortunately an extremely difficult one to carry out consistently. In the greater part of the book we are shown the trees rather than the forest, what individual men have done rather than the part they played in the total development of science; and in general we are shown the men rather than the evolving science. However, the book does give us many valuable views of the larger development, sometimes as chapters and sometimes as paragraphs, mostly as the latter. The first chapter, on Early Civilizations, is such a valuable view, and so is the second, on Early Mathematical Science in Babylonia and Egypt. But in the third and fourth chapters we are left with a far from clear or accurate picture of the development of early Greek science. Of course this is not remarkable, for where were the authors to get this picture themselves at second hand? The history of Alexandrian science, especially mathematics and astron-

omy, is given in some detail; and the great work of Archimedes and his place in the history of science are made clear to the reader. The part that the Romans played in the history of science does not seem to me adequately or clearly told.

The story of medieval and modern science is naturally better told. The authors seem to me to have selected admirably the facts that were important for the student to be shown; though there is much that is confusing and too little that is enlightening for the beginner who wishes to see the forest rather than the trees. Yet let me hasten to add that there are most enlightening paragraphs scattered here and there, and that the last chapter, on natural science in the nineteenth century, is especially illuminating.

In general, this is not the textbook on the history of science which I wish we might put into the hands of our undergraduates; but it is so much better than any we have had, that we are greatly indebted to the authors. In saying this I have especially in mind the teachers of philosophy who believe that the department of philosophy should hold itself responsible for the teaching of the history of science in our colleges.

WALTER T. MARVIN.

RUTGERS COLLEGE.

*Instinct in Man.* A Contribution to the Psychology of Education. By JAMES DREVER. Cambridge, University Press, 1917.—pp. x, 281.

This essay, originally a thesis for the doctorate at the University of Edinburgh, is here published without material changes. It is a comprehensive and detailed psychological study of the instinctive tendencies in man. The author's general standpoint is similar to that of McDougall, though different in details. The subtitle is misleading; the references to education are few and perfunctory.

In the introductory chapter the author differentiates psychology from biology and physiology as the science whose explanations are "in terms of experience, in psychical terms" (p. 4). While thus not an extreme behaviorist, his attitude is functional, as is illustrated by his provisional definition of instinct as "an innate impelling force guiding cognition, accompanied by interest or emotion, and at least partly determining action" (p. 20).

Two chapters devoted to an historical sketch of the more important views of instinct in modern times disclose extensive knowledge of the sources of the history of psychology. The following three chapters criticize theories of instinct advanced by Bergson, Lloyd Morgan, Stout, and Charles Myers. The seventh chapter opens with an effective criticism of Thorndike's elaborate attempts to classify instincts as definite responses to definite situations. Though taking sides with McDougall on this last point, the author takes issue with McDougall's doctrine that emotions are invariable accompaniments of instinctive activity. He concedes that all instinctive activity has an affective tone, an interest, but he restricts the term 'emotion' to cases where the activity is impeded and the affective side intensified in consequence. The reviewer

doubts if the issue here with McDougall is much more than one of definition. The author gives a classification of "man's original instinctive tendencies" on "the same general lines as McDougall's, but more fully wrought out" (p. 169). In most instances the changes seem to the reviewer to be improvements. In the four concluding chapters, devoted respectively to the 'instinct tendencies,' 'interests and sentiments,' 'general instinct tendencies' and 'appetite tendencies,' various details are added by the author to the general conceptions that he has adapted from McDougall, Shand, Karl Groos, Baldwin and others. Three appendices treat of meaning as affective, Driesch's interpretation of instinct, and a minor point regarding the 'joy emotions' recognized by the author.

While this essay cannot be said to propose any fundamental changes in the main conceptions of social psychology, it merits commendation as a thorough piece of work, and most of the detailed modifications it suggests appear to be well reasoned out and convincing.

WILLIAM KELLEY WRIGHT.

DARTMOUTH COLLEGE.

*The Secret of Personality.* The Problem of Human Life as Viewed in the Light of an Hypothesis of Man's Religious Faith. By GEORGE TRUMBULL LADD New York, Longmans, Green & Co.—pp. 287.

Professor Ladd dedicates this volume "to those who at present lament the appalling waste of personal values," in the belief that the time prompts to fresh inquiry into man's nature and destiny. His inquiry, outlined below, aims, not at scientific certainty, but at the statement of a hypothesis upon a level, as regards conceivability, with those of the natural and social sciences and philosophy.

Men are commonly thought to have more worth than things or animals because they are 'persons.' What is it to be a person? It means that in all man feels, does, thinks, he shows awareness of a 'self' and of other spirits with whom he feels akin. This 'self' has a body and soul, somehow united and interdependent; it is the same through the changes of life, yet different from other selves; it comes to be on the mental side through the unifying effect of association, and through the control of associations, the choice of dispositions and habits, by will. To attain its full growth it must learn to know things, self, and their values, and express these values in conduct; it must become a person, rational, moral, æsthetic and religious.

Man's knowledge depends upon his belief in and respect for reality. Science speaks only of phenomena, but the term means nothing if not the appearance of some real thing to some real person. *What* reality is, man learns sooner from self than from things. He finds himself capable of producing changes and compelled to suffer them, and such terms as 'Cause 'and 'Force' he applies to things by transfer from experience of himself as will. The 'respect for reality' which guides the development of science is derived from the demands of intelligent will, or reason. 'Nature must obey laws,' *i. e.*, it must be rational.

'Truth must be sought for its own sake,' *i. e.*, reason criticizes its own procedure, and accepts as truth what satisfies that criticism. But this respect for reality which is man's distinguishing trait as rational is thus an ideal, and a moral affair. To believe only the true involves the same will which feels obliged to choose only the good. The compulsion of the will in both cases is not, as in the behavior of things, from outside. The will is determined only by its ideas, but will, rightly understood as the whole self, determines its ideas, chooses between them on the basis of values which it itself assigns. These choices make character, and the general qualities of the moral self—its virtues—are of its own choice, as the properties of things are not. In the choice between good and evil, as in the respect for reality, we see that man's nature is twofold, that the actual self and the actual world differ from those of his ideals. As a lover of beauty man again objectifies, personifies, idealizes. The beauty is 'over there,' the artist must 'catch the spirit' of things; the world is envisaged after the analogy of personal spiritual life. These tendencies are seen at their height in the religious conception of the World-Ground as the Absolute and Infinite Person, in the belief that this Person is the Friend and Redeemer of man, inviting his coöperation in the task of developing humanity to its full perfection in a spiritual community.

The Secret of Personality is found, then, in man's dual nature, capable at its highest of becoming a true son of God. What is his destiny? The positive sciences prophesy for the individual only death, for the race, possibly some improvement in material conditions as the ages pass. The hope of the social sciences for the future of the community is staked upon the gradual realization of the democratic ideal. But the extinction of the individual's life at death would go far toward making all value judgments illusory, and the democratic ideal as sketched by economics and sociology holds no sure promise of the preservation of essential personal values, because of uncertainty as to their nature. Ethics and religion draw a clearer picture. They regard all values as personal, to be attained by realizing the perfect type of self-hood, and man, as capable of realizing this type because of his kinship with the Divine Reason. Upon the belief that the personal values, being absolute, are imperishable they ground their hypothesis of immortality—that man's life is not extinguished at death, and that his future is such as to enable him to continue his journey toward perfection.

The points at which thinkers of a different outlook would challenge the main contentions of this book are obvious. Fair criticism would, however, limit its scope to the accuracy of its description of the view of the nature of selfhood which forms the basis of religious idealism. It may be recommended as a clear and at times eloquent exposition, rich in illustration from the descriptive sciences as well as the greater literatures. The trenchant character of its statements serves the thorough study of the problems from other points of view by presenting its hypothesis in fighting trim.

Anna A. Cutler.

Smith College.

*Brahmadarsanam*, or Intuition of the Absolute, being an Introduction to the Study of Hindu Philosophy. By Srî Ânanda Âchârya. New York, The Macmillan Company, 1917.—pp. xii, 210.

This little book consists of six lectures given by a Hindu scholar to a Norwegian audience at Christiania in the spring of 1915. The speaker professed to be as unfamiliar with the views of his audience as they were with his. This did not prevent him, however, from laying bare the faith that was within him in a manner both clear and attractive. Profoundly versed in the philosophy of India, and widely read also in that of Europe, Ananda displays a breadth of sympathy and appreciation that is delightful.

Considered as an introduction to Hindu philosophy, the book does not attempt to give a systematic survey. Two systems only are expounded in some detail: the dualism of the Sâmkhya, and the various forms of monism developed in Vedantic reflection. The matter is so handled as to produce a very vivid impression of the essential unity of India's philosophic endeavor, even in spite of the apparent differences between Sâmkhya and Vedanta, or between Advaita and Visistadvaita. Taken as an introduction to the spirit of Hindu thought, however, with some opening up of details, the lectures seem to me admirable.

The author is an orthodox advaitin Brahman, a radical monist of the school of Sankara. He gradually works forward to that position, through the dualism of Kapila and the qualified monism of Ramanuja. One is surprised to see, however, that in passing beyond these positions he does not bring destructive criticism to bear upon them. "Those who are anxious to study this aspect of Vedantic thought ought to be familiar with the writings," etc. (p. 101). This mode of dismissing Ramanuja and the entire visistadvaita movement may indicate merely a sympathetic spirit, or it might indicate a want of fundamental critical power.

The last two lectures, given over to the exposition of the Sankara type of Vedantism, are clearly and interestingly written. It seems to me, however, that by their very clearness they do but bring out the more convincingly the hopeless impossibility of such an overdriven abstract monism. Every objection that I have ever had to Sankara's system was fortified and intensified by Ananda's exposition. The emptiness of the conception of Brahman, which, as we are assured (p. 153), has no content but 'OM'; the appeal to dreamless sleep, or even to a state of mentality more vacant than dreamless sleep, as the highest thing in life; the manifold contradictions in the doctrine of Mâyâ; the subversion of all values in the world, so that "the greatest of all Mâyâ is the thought that some forms of Mâyâ are worth more than others" (p. 156); the vicious abstractionism, which conceives that things have been explained in unison when in fact their differences have been simply ignored—all these defects and many more are exemplified in Ananda's pages, without causing him the slightest uneasiness. As in the case of other advaitins, when he descends to the lower order of knowledge, the profound idealism of his thought renders his message suggestive, but when held strictly at the level of the higher knowledge it is meaningless and inane.

This volume contains important suggestions for further reading after each lecture, and a good general bibliography of Hindu philosophy at the close, as well as an index or glossary that explains quite fully the meaning of several dozen Sanskrit terms that would be found in such reading.

EDGAR L. HINMAN.

UNIVERSITY OF NEBRASKA.

*Un Pensatore Americano: Josiah Royce.* FRANCESCO OLGIATI. Milano, Edizione di "Vita E Pensiero," 1917.—pp. 114.

Josiah Royce is no stranger in Italy. *The Spirit of Modern Philosophy*, *The World and the Individual*, and *The Philosophy of Loyalty*, translated by Giuseppe Rensi, have found in Italy many sympathetic readers and reviewers. Of a few Italian writers who have commented at length upon Royce's philosophy mention is made in the introduction to the present monograph.

*Un Pensatore Americano*, a collection of separate essays contributed originally to the *Rivista di Filosofica neo-scolastica*, is an admirable introduction to Royce's idealism. Mainly expository, it reproduces faithfully—perhaps *too* faithfully—Royce's ideas and language. The reader gains from this synthetic study a wonderfully vivid impression of Royce's thought and style.

The author bases his interpretation of Royce's system chiefly upon the works translated by Rensi. References to the other writings of Royce are frequent but not copious.

The volume begins with a study of the "origins" of Royce's idealism. These are traced to *The Spirit of Modern Philosophy*. The constructive part of this book is interpreted as the "synthesis" of the historical views there portrayed. A long review of the earlier book is followed by a summary exposition of the chief topics in *The World and the Individual*.

The author has entered into Royce's system with remarkable penetration. His over-emphasis of its theological implications is to be regretted. And that he has paid so little attention to the epistemology of "interpretation" and the metaphysics of the "community"—the cardinal teachings of *The Problem of Christianity*—is equally to be regretted.

J. LOEWENBERG.

THE UNIVERSITY OF CALIFORNIA.

*An Introduction to the History of Science.* By WALTER LIBBY. Boston, Houghton Mifflin Company, 1917.—pp. xi, 288.

This little work is an 'introduction' in the pedagogical sense of the term. It is not a history. It has neither the method nor the structure of the most elementary history. Rather it attempts to do for its field what the various collections of 'hero tales' have done so well for the political history of Europe and America—break a way into the subject and open it up to a more seriously interested study.

How useful the book may be in this way need not be argued here. For the teacher or student of the history of philosophy, the book is of the least possible

value. Fifty-six pages are devoted to the whole period before the seventeenth century; fourteen of these are given to the Greeks, and very meager pages they are. One sentence is devoted to the theory of Copernicus (p. 55): "He came to see that the apparent revolution of the heavenly bodies about the earth from east to west is really owing to the revolution of the earth on its axis from west to east." There is thus no reference to the annual motion of earth or sun! This may be taken as a fair index of the scholarly pretensions of the book. It has none. The seventeenth, eighteenth, and nineteenth centuries are more fully, but scarcely more adequately treated. There is however a considerable amount of biographical material, which to the bright young student may be usefully suggestive.

THEODORE DE LAGUNA.

BRYN MAWR COLLEGE.

The following books also have been received:

*A Commentary to Kant's Critique of Pure Reason.* By NORMAN KEMP SMITH. London & New York, MacMillan & Company, 1918.—pp. lxi, 615.

*Some Suggestions in Ethics.* By BERNARD BOSANQUET. London, The MacMillan Company, 1918.—pp. viii, 248.

*The Origin and Evolution of Life.* By HENRY FAIRFIELD OSBORN. New York, Charles Scribner's Sons, 1918.—pp. xxxi, 322.

*Human Nature and its Remaking.* By WILLIAM ERNEST HOCKING. New Haven, Yale University Press, 1918.—pp. xxvi, 434.

*An Ethical Philosophy of Life.* By FELIX ADLER. New York, D. Appleton & Company, 1918.—pp. viii, 380.

*Elements of Constructive Philosophy.* By J. S. MACKENZIE. London, George Allen & Unwin Ltd., New York, The Macmillan Company, 1918.—pp. 487.

*The New Rationalism.* By EDWARD GLEASON SPAULDING. New York, Henry Holt & Co., 1918.—pp. xviii, 532.

*The War and the Coming Peace.* By MORRIS JASTROW, JR. Philadelphia and London, J. B. Lippincott Company, 1918.—pp. 144.

*The Psychology of Conviction.* By JOSEPH JASTROW. Boston and New York, Houghton Mifflin Company, 1918.—pp. xix, 387.

*The Processes of History.* By FREDERICK J. TEGGART. New Haven, Yale University Press, 1918.—pp. ix, 162.

*An Elementary Handbook of Logic.* By JOHN J. TOOHEY. New York, Schwartz, Kirwin & Fauss, 1918.—pp. xiv, 241.

*General Types of Superior Men.* By OSIAS L. SCHWARTZ. Boston, Richard G. Badger, 1918.—pp. 435.

*The Challenge of the Universe.* By CHARLES J. SHEBBEARE. London, Society for Promoting Christian Knowledge, New York, The Macmillan Company, 1918.—pp. xxiv, 245.

*Liberty and Democracy.* By HARTLEY BURR ALEXANDER. Boston, Marshall Jones Company, 1918.—pp. viii, 229.

*The Field of Philosophy.* By JOSEPH ALEXANDER LEIGHTON. Columbus, Ohio, R. G. Adams & Co., 1918.—pp. xii, 414.

*The Relation between Thought and Action from the German and from the Classical Point of View.* By ÉMILE BOUTROUX. Oxford at the Clarendon Press, 1918.—pp. 32.

*Footnotes to Formal Logic.* By CHARLES H. RIEBER. University of California Publications. Philosophy, Vol. 3. Berkeley, University of California Press, 1918.—pp. 177.

*An Experimental Study of Abnormal Children, with Special Reference to the Problems of Dependency and Delinquency.* By OLGA BRIDGMAN. University of California Publications in Psychology. Vol. 3, No. 1. Berkeley, University of California Press, 1918.—pp. 59.

*General Education Board. Report of the Secretary. 1916–1917.* New York City, The General Education Board.—pp. x, 92.

*Scritti Vari publicati in occasione del terzo centenario della morte di Francesco Suarez.* Per cura del Prof. AGOSTINO GEMELLI. Milano, Societa Editrice, Vita E Pensiero, 1918.—pp. 151.

*La Guerre Mondiale et la Vie Spirituelle.* Par J. SEGOND. Paris, Felix Alcan, 1918.—pp. 166.

# SUMMARIES OF ARTICLES.

[ABBREVIATIONS.—*Am. J. Ps.* = *The American Journal of Psychology; Ar. de Ps.* = *Archives de Psychologie; Ar. f. G. Ph.* = *Archiv für Geschichte der Philosophie; Ar. f. sys. Ph.* = *Archiv für systematische Philosophie; Br. J. Ps.* = *The British Journal of Psychology; Int. J. E.* = *International Journal of Ethics; J. of Ph., Psy., and Sci. Meth.* = *The Journal of Philosophy, Psychology, and Scientific Methods; J. de Psych.* = *Journal de Psychologie; Psych. Bul.* = *Psychological Bulletin; Psych. Rev.* = *Psychological Review; Rev. de Mét.* = *Revue de Métaphysique et de Morale; Rev. Néo-Sc.* = *Revue Néo-Scolastique; Rev. Ph.* = *Revue Philosophique; Rev. de Ph.* = *Revue de Philosophie; R. d. Fil.* = *Rivista di Filosofia; V. f. w. Ph.* = *Vierteljahrsschrift für wissenschaftliche Philosophie; Z. f. Ph. u. ph. Kr.* = *Zeitschrift für Philosophie und philosophische Kritik; Z. f. Psych.* = *Zeitschrift für Psychologie und Physiologie der Sinnesorgane, I. Abtl. Zeitschrift für Psychologie.* —Other titles are self-explanatory.]

*Le "Contrat Social" de Rousseau.* (I.) ÉMILE DURKHEIM. Rev. de Mét., XXV, 1, pp. 1–23.

The *Social Contract* was represented by Rousseau as part of a larger work he had planned, to be called *Des Ins itutions Politiques.* He conceived the idea of this work in 1743, and, after long meditation, finished the plan in 1757. But soon finding that to complete it would require some years, he issued such parts as could be detached from the whole under the title of the *Social Contract*, which appeared in 1762. There is evidence that the work from which the *Social Contract* was detached really existed. The *Social Contract*, since it dealt with the basis of law and government, was the basis of the work. The problem of the work published is to find a form of civil state in which statute laws are superimposed upon, without violating, the laws of nature. The state of nature has never really existed, and the natural man is an abstraction made up of the elements derived from the constitution of the individual, and containing no social elements. History has nothing to do with the matter. Savages are not altogether in a state of nature. We may learn of the state of nature by observing animals not subject to social influence, by observing savages, by a sort of dialectic which aims to connect with social institutions the elements they logically require. Society should be founded on the characteristics of the individual nature. To judge of this, one must free oneself from ideas derived from society in its present state. Rousseau is endeavoring to get rid of accidental ideas, and to reach fundamental ones; his theory of a state of nature is not the dream of an excessively optimistic sentimentalist. When man is in a state of nature there is an equilibrium of his needs and his resources; he depends on direct sensations, and does not reason. Nature within man corresponds with nature without him. The state of nature is not a state of war. The natural man could feel pity. Yet he did not unite with his fellows

because, having all his wants fully supplied, he had no cause to desire association. Life in society is possible only when reason is used. In the state of nature man is neither moral nor immoral; he is unmoral, and in a state of innocence. When nature without man loses its harmony with nature within him, the natural state no longer exists, and man is obliged to use his reason. The state of nature is destroyed by changes in man's physical environment. To satisfy his new needs, man finds it useful to associate with others. Language is devised, man becomes accustomed to association, and develops a sense of obligation to others. The arts develop, and hand in hand with them the capacities of men. Then comes the state of war, remedied by the establishment of laws and governments. This development from the state of nature is in accord with the nature of man, which possesses from the beginning the power of development. Yet the state of society is not itself natural, but a result of external stimuli. Society is not an aggregation of units, but an organic moral whole. The body politic may be likened to a single man. Yet it is not a natural body, but the result of reason, for the individual is the only real and natural unit. Even the unit of the family is the result of reason. Society is both an organism and a product of reason. These two coexisting ideas explain the double aspect which the sociology and the political doctrines of Rousseau present. Civilized society has the evils of inequality contrary to nature, and of mutual dependence, which is really slavery. Dependence on the natural order is freedom; dependence on men is slavery. Fixed necessity like that of natural law makes freedom possible. Yet if Rousseau had believed that society was an unmixed evil, the *Social Contract* would be unintelligible, and assignment to society of useful functions inexplicable. The state of nature is not the only good condition for man; it is wrong to think Rousseau essentially a pessimist. Since man had from the beginning the power of development in society, this development is not contrary to the order of providence. If the state of society lacks the perfection of the state of nature, it has advantages over it. The vices of society are unnecessary. The object of the *Social Contract* is to show how society should be organized in order to obtain the greatest happiness and perfection.

ALLAN H. GILBERT.

*Le "Contrat Social" de Rousseau.* (II.) E. DURKHEIM. Rev. de Mét., XXV, 2, pp. 129–161.

Society must be organized to counteract the forces working against man. The civilized man must have the same harmony with his environment that the natural man has with his. Law must be superior to the wills of individuals, and founded on nature or reason. Man's liberty cannot be alienated to a ruler; it may be submitted, by the social contract, to the common will, which is the foundation of society. This submission results in a freedom and equality better than those of the state of nature. Man now becomes a moral being; virtue is the conformity of the particular to the general will. The body politic is the sovereign, and sovereignty is the exercise of the general will. The general

will is the individual will at its best, and is made up of the average of the wills of the individual citizens. There are two antithetical tendencies in Rousseau: the state is a means for the individual; the individual depends on the state. The common will is not a particular decision of a majority, but the customary thoughts of all, working for the common good. The collective force of the body politic, when placed at the service of the general will, is sovereignty. Sovereignty cannot be alienated, even to the extent of exercise through representatives. It cannot be divided; society is like an animal ruled by a single mind; social solidarity results from the attachment of the individuals not to the group, but to each other. Sovereignty is without control, and properly so, for the general will is right. Yet the judgment which guides it is not always clear. The sovereign can demand of its subjects only what is of service to all, and any demand is legitimate when it is a true demand of the general will; demands springing from a party are invalid. A legitimate sovereign act regards the whole body. If the sovereign exceeds its powers, it ceases to be a sovereign, and obedience is not its due. In chapters 6–12 of the Second Book Rousseau deals with sovereignty in action. The sovereign will manifests itself in law, whose function is to assure the equilibrium of the parts of society. A law is valid when all the people enact it for all the people. It is the business of the law-giver to express clearly the judgment of the people. He must possess extraordinary genius. He can propose, but cannot decide or enforce. If he is to work properly, the people must be in a plastic condition, the state must be neither too large nor too small, and must be at peace. The general will becomes actual through the executive power of government. The larger the number of the citizens, the smaller should be the number of the magistrates, because a small number of wills are more active than a more nearly general will. A democracy is the ideal, but is difficult of operation; a kingdom gives too much power to a single will; an aristocracy is most practicable. Because the power of the government tends to overthrow the general will, states constantly tend toward ruin. The existence of any government is in truth a contradiction of the principles of Rousseau. The choice of rulers before the government is established is especially difficult. Even the democracy is contradictory, because of the impotence of the general will in particular cases. An antinomy results from Rousseau's conception that the sovereign is another aspect of the people; it is difficult to make the abstract general will concrete for the purposes of action. To prevent usurpation by the magistrates the assembly of all the people must frequently meet. Every state must have its religion. Christianity is not suitable, for it makes its followers citizens of the world. The religion established by the state must deal with moral, not with spiritual things; it must be simple, and demand tolerance for everything in addition to, and not subversive of, its own creed. Rousseau's thought from the second *Discourse* to the *Contract* is in continuity. It is related to, but unlike, that of Hobbes and Montesquieu. The foundations of Rousseau's state have so little solidity that the fabric is like an edifice which can be established and maintained in equilibrium only by an almost miraculous concourse of circumstances.

ALLAN H. GILBERT.

*L' Art et la science.* V. DELBOS. Rev. de Mét., XXV, 1, pp. 61–74.

Certain artistic forms such as the myth and legend seem not to thrive in the culture of to-day; and art in its totality is threatened by the increasing predominance of science. Science, not content to be one human activity among others, arrogantly assumes the function of disposing of the relations of all things to each other. Upon what is the antagonism between art and science based? Art implies fiction; it takes us beyond ordinary life and reality. The æsthetic or artistic state of mind is a free employment of the representative faculty with objects, and not a subjection to facts. It always includes a feeling of detachment from the object contemplated. Science, on the other hand, knows and explains, and is bound to exclude the mysterious and fictitious. It makes of reality a tissue of facts and laws, and passes from a partial toward a complete annihilation of sentiment and imagination. Science tends to restrict the mind to a technical, special intelligence; to lessen the feeling for the ideal; to convert our civilization into a huge mechanism. But this view of an antagonism between art and science rests upon an inadequate analysis of the various contacts which mind has with reality. The scientific view treats the world as if it existed by itself. But this 'existence-by-itself' is the result of a deliberate human act of abstraction. The conception of the world as a system of exact laws is a legitimate product of the intelligence, but the intelligence is itself an abstraction. The integral and immediate view of the world is the result of the harmonious functioning of the totality of human faculties. Æsthetic contemplation and artistic production are ways of realizing this harmony. Æsthetic beauty appears only when the relation of nature to spirit is explicit; nature taken by itself is neither beautiful nor ugly. Science, therefore, has no relevance in the proper domain of art. It is true that certain manifestations of art, too opposed to the teachings of science, no longer please the mind, but this does not affect the essential relation of the two. Art and science may render certain mutual services. When properly used, science can increase the capacity for admiration by increasing knowledge, and science needs something of the imagination and intuition of art.

KATHERINE GILBERT.

*L'Art et la Morale.* V. DELBOS. Rev. de Mét., XXV, 2, pp. 177–188.

The relation between art and morals is many-sided. Art frees our minds from immediate interests and allows us a detachment which enables us to sympathize with all humanity. Art cannot limit itself to the representation of what serves a moral purpose. Indeed art lulls the conscience so that things which would revolt us in real life do not offend us in art. It furnishes us with an enlarged, ideal experience, through which we come to know the whole life of the race. Aristotle's law of the 'purgation of the passions' shows how art frees the emotions from particular circumstances, and applies them to the common destiny of mankind. Art then has the psychological value of liberating us from emotions whose outbreak in the real world might cause us to go contrary to the moral law. But there is another psycho-

logical law which opposes this. While art may purify the passions, it may on the contrary reinforce them. It can define vague feelings, render them contagious, and excite sympathetic justification of unworthy objects. The theatre, for instance, is capable not only of amending morals but of corrupting them. Bossuet and Rousseau both pointed this out. The question is whether art, when it reaches the extreme form where it corrupts public morals, does not cease to be art. Such art has pandered to a confusion between the truth of art and the truth of life. A genuine work of art arouses in us a sort of *æsthetic reflection* which transports us to a realm entirely foreign to practical reality. Art which is not controlled by such ideal, æsthetic reflection would seem not to be true art. True art, on the whole, is advantageous to morals. If one has moral education, one risks nothing from art. All things are healthful to healthy souls. Yet art aids morals only when its aid is solicited. The conception of an *ideal* is common to æsthetics and morals. The virtues, too, have always been partially æsthetic conceptions. Indeed all ethical language is full of æsthetic qualifications.

MARIE T. COLLINS.

*Mechanism and Causality in Physics.* MORRIS RAPHAEL COHEN. J. of Ph., Psy., and Sci. Meth., XV, 14, pp. 365–386.

This study forms part of a forthcoming book on *The Principles of Natural Science.* The question under examination is whether the mechanical point of view is necessary for physical science. Preliminary distinctions are made between the physical and the mechanical, between mechanism and determism, and between mechanical phenomena and those expressible in certain types of differential equations. The author proceeds to discuss three positions which defend the universality of mechanical law. The first of these is based on the belief that the classic science of mechanics consists of a deductive system of propositions. It adduces *a priori* arguments to show that all natural events should be deducible from these laws. To-day it is hardly necessary to examine the fallacies in these *a priori* proofs of philosophers, for we are in possession of facts tending to show that the principles of mechanics are not universal, but merely first approximations. Recent physics, for instance, is forced to assume that masses, beyond certain limits, do not remain constant, but vary with velocity. Similar considerations may be advanced against *a priori* proofs that all physical phenomena are mechanical. Such arguments rest on the fallacious assumption that all changes are in the last analysis spatial. Recent experimental work tends to show that mass phenomena may be of electric origin; so electricity may be more fundamental than mechanics. Secondly, there are those who defend the mechanical standpoint on faith, apparently believing that the mechanical view has been making the steadiest progress toward a complete explanation of the universe. The actual history of physics, however, shows that this has not been the case. Thirdly, there are those who offer a psychological argument for the mechanical point of view. They hold that physical phenomena can only be understood by forming

mechanical models of them. This again is disproved by the history of the discoveries in physics. Modern physics is provisional, pluralistic, empirical, yet thoroughly mathematical. It is suspicious of any dogma of eternal substantial forms or ultimates. The old notion of absolutely uniform causation is giving place to the doctrine of statistical averages or correlations. The classic law of the uniformity of nature is changing, because of the discovery that in physics, as in social science, we never have absolute repetition. Yet this does not force us to hold with Mach and Pearson that all necessary relations are merely mental products. The interpretation by empiricists cannot account for the fundamental assumption underlying scientific procedure, namely, that the logically necessary relations holding between mathematical expressions hold of natural phenomena themselves. The significance of the fact that logical or hypothetical truth does really apply to nature has been obscured by certain modern philosophical dogmas. Among the most harmful of these dogmas are the following: (1) the notion that logical and mathematical relations are merely subjective; (2) that deductive reasoning is merely tautological; (3) that science deals only with the actual, existent world; (4) that truth must be organic, and that approximations or partial truths are not really truths. Mechanism, it is concluded, has failed as a final account of physics. Logical relations seem rather to form the intelligible substance of things.

MARIE T. COLLINS.

*On Certain Idealistic Arguments.* HAROLD P. COOKE. Mind, N. S., XXVII, 106, pp. 165–173.

The question under consideration is the idealist's argument that matter without mind is unthinkable—that matter exists only in mind. The defense of the argument usually proceeds by an inquiry into the nature of the primary and secondary qualities, from which the conclusion is reached that everything exists in mind. Evidently the mind meant is that of the individual subject; the world may be said to exist in my mind. By analogy it is inferred to exist in other minds as well. Unperceived objects, and the world in the pre-sentient days of which science speaks, all are placed in the mind of God. But here the standpoint of my personal experience is tacitly given up. *Esse* is no longer *percipi*, unless the argument starts by assuming the very point which it seeks to prove, viz., that all things exist in some consciousness. The Divine Mind is simply introduced by a leap in the argument. The idealistic inference from primary and secondary qualities merely amounts to the contention that one cannot have a mental picture of what is *ex hypothesi* unapprehended. It proves nothing as to existence. If, on the other hand, we consider ourselves in immediate contact with our sensible surroundings and disregard the intervention of the organs of sense, we have still other difficulties. Historically, it may be noted, Berkeley left us the organs of sense. But these then must be permanent sensations—sensations whereby we have other sensations—which is not true. Or we must presuppose the body, and virtually are brought once more to

Locke's representative perceptionism—even though Berkeley identified sensations with the objects themselves. The idealist argument should not set itself up as an inference, but merely as a definition of terms.

MARIE T. COLLINS.

*The Implications of Recognition.* BEATRICE EDGELL. Mind, N. S., XXVII, 196, pp. 174–187.

The article represents an advanced stage in a discussion between the author and Mr. G. E. Moore. The subject is the implications of recognition with special reference to knowledge by acquaintance, as presented chiefly in the writings of Mr. Bertrand Russell. 'Acquaintance' appears to be the term used by Mr. Russell to express the fact that experience is constituted by a relation. Knowledge by acquaintance is distinguished sharply from knowledge about. Sense knowledge is typical knowledge by acquaintance. Acquaintance does not necessarily involve knowledge of this acquaintance. The present author asks how, on such a view, we can be acquainted with a multiplicity of objects as a multiplicity, when the subject is not given. Is the distinction between knowledge by acquaintance and knowledge about, fundamental? If sense-data are independent of our knowing, then what magic can repetition effect in cognition? All we can infer from retentiveness is that, by repetition, acquaintance with an object may be facilitated. One might claim that this facilitation had an inner side, but this perhaps might be merely introspection, which would either lead epistemologically to involution in the act of acquaintance or postulate a completed analysis of the object, nullifying the whole function of acquaintance. The radical difficulty with Mr. Russell's view of acquaintance seems to be the impossibility of making any headway with an object of cogniton devoid of necessary relations to previous experience. There is never simple cognitive acquaintance, but always knowledge about; every object is *ipso facto* placed in relations. There must be reciprocity between the processes of cognition and the 'this' on which they are exercised. It is hard to see how a number of serial acquaintances, of the same content and order, could be constitutive of recognition; or how the exercise of sensing could give a sense-datum new significance. Mr. Russell's theory of knowledge by acquaintance is not independent of his theory of the physical world.

MARIE T. COLLINS.

*A Method of Distributive Justice.* ARTHUR K. ROGERS. Int. J. E., XXVIII, 3, pp. 406–424.

In a previous paper the author argued that there exists no *a priori* principle of justice for settling the proper division of wealth. Yet the ideal lies in the direction of equalization. He now discusses a method for approaching this ideal. Indefinitely extended experiment will be required. But the essential preliminary is a *new psychological attitude* on the part both of capital and labor: a willingness to set aside hostility and to accept a coöperative basis. Coöperation must be worked out through a wholly non-paternalistic form of

profit-sharing. Class-consciousness appears in many respects a satisfactory means; but it must shift its emphasis from negative conflict to some positive end. Labor should begin to experiment in coöperating with the better disposed employers toward greater efficiency of production, as a definite common goal.

MARIE T. COLLINS.

*The Idea of the State.* C. DELISLE BURNS. Mind, N. S., XXVII, 106, pp. 188–198.

The 'idea of the state' is the tendency governing political administration and popular feeling; it is a succession of insights rather than a continuous movement, and is rational only in the sense that it is in general intelligent. The neglected consideration which is the subject of this article is: "The idea of the state implies that the state exists for increasing the intercourse and interdependence between its own citizens and those of every other state." To what extent is this thesis true? There are two main arguments against it: (1) Militarism, and (2) The concentration upon domestic development in every state. To the first argument the reply is that militarism is a survival from a period before there was a state; that the development of the state tends toward a widening distribution of responsibility among the citizens; and that the effects of militarism upon the organization of the state may be non-essential. The second argument merely shows that one element in the idea of the state has been more fully appreciated than another. "Analysis of the history of the state shows that (1) the common interests of its own citizens and subjects, for which most men agree that the state exists, can only be secured if the state also aims at the interests which are common to citizens and aliens; (2) there is an increasing impatience as state-life develops with the divisions and differences between governments and still more impatience with the militarism and periodic wars which delay domestic reform or obstruct ordinary conveniences; (3) there is a rapidly developing organization of the external relations of states on political (non-military) principles. Such indications imply that one element in the idea of the state is *interstate political organization.*"

KATHERINE GILBERT.

*Two Types of Transcendentalism in America.* WOODBRIDGE RILEY. J. of Ph., Psy., and Sci. Meth., XV, 11, pp. 281–292.

Although American transcendentalism is suggestive of a peculiar native strain and was indeed set in a local mold before the advent of either French or German influences, these foreign nations have undoubtedly left an indelible impression upon the American transcendental movement. There is even a tradition that New England transcendentalism was 'made in Germany.' Recent investigation has conclusively pointed out that Germany did not directly affect leaders life Channing and Emerson, and that Kant, Fichte, Schelling and Hegel were not known in this country until the sixties. The first type of American transcendentalism was Franco-American and was greatly influenced by Cousin, Jouffroy and Constant. But the metaphysical

position of these French philosophers was never accepted as a whole by the American transcendentalists. They could not accept the reign of any authoritative, dogmatic system. The advent of the second type of transcendentalism, introducing a distinctly German influence, was brought about after the Civil War through William T. Harris in his *Journal of Speculative Philosophy*. Kant, Fichte, Schelling and Hegel were read in the original, and through the discussions of the St. Louis Metaphysical Club, the translations in the Journal, and the subsequent lectures of Harris and his colleagues at the Concord Summer School, New England was largely won over to the recent marked sympathy with the German way of thinking. George Sylvester Morris, the well-known translator of Ueberweg, did much to introduce for the first time an adequate historical method in philosophy. Morris pointed out that the historic course of philosophy was an evolution, or rather a portrayal of various schools of speculation with whose divergencies it would be as absurd to quarrel as with the various schools of painting. This second type of transcendentalism was thus primarily Hegelian in its point of view.

EDGAR DE LASKI.

# NOTES.

Dr. H. Wildon Carr has been appointed professor of philosophy in the University of London.

The death is announced of Professor Harry Kirke Wolfe who for many years has been head of the department of philosophy in the University of Nebraska.

Dr. Allen J. Thomas, who has been instructor in philosophy in Cornell University, has been appointed professor of philosophy, psychology, and education in the Connecticut College for Women at New London.

Mr. W. Curtis Swabey has been appointed instructor in philosophy at the University of Kansas.

We give below a list of articles in current philosophical magazines:

THE INTERNATIONAL JOURNAL OF ETHICS, XXVIII, 4: *Ralph Barton Perry*, What Do We Mean by Democracy?; *William E. Dodd*, The Struggle for Democracy in the United States; *John P. Frey*, The Ideals in the American Labor Movement; *Charles A. Ellwood*, Democracy and Social Conditions in the United States; *Nahum Wolf Goldstein*, Birth Control as a Socio-Economic Panacea; *Benoy Kumar Sarkar*, The Futurism of Young Asia; *Margaret Jourdain*, Air Raid Reprisals and Starvation by Blockade.

THE HARVARD THEOLOGICAL REVIEW, XI, 3: *Rufus M. Jones*, The Anabaptists and Minor Sects in the Reformation; *Woodbridge Riley*, Early Free-Thinking Societies in America; *John Wright Buckham*, The Pilgrim Tercentenary and Theological Progress; *David Gordon Lyon*, Recent Excavations at Babylon; *William Jerome Wilson*, The Unity of the Aramaic Acts.

THE AMERICAN JOURNAL OF PSYCHOLOGY, XXIX, 3: *Paul Thomas Young*, An Experimental Study of Mixed Feelings; *Henry Jones Mulford*, The Human Mind. A Suggestion as to the Constitution of Normal, Subnormal and Supernormal Mind; *Margaret Otis*, Aesthetic Unity. An Investigation into the Conditions that Favor the Apperception of a Manifold as a Unit; *Garry C. Myers*, Some Variabilities and Correlations in Learning; (Minor Studies from the Psychological Laboratory of Vassar College) XXXIV, *Margaret Montague*, *M. M. Reynolds* and *M. F. Washburn*, A Further Study of Freshmen; XXXV, *Margaret E. Cobb*, *Margaret Kincaid*, and *M. F. Washburn*, Futher Tests of the Verbal Ability of Poor Spellers; XXXVI, *Judith Cattell*, *Josephine Glascock*, and *M. F. Washburn*, Experiments on a Possible Test of Æsthetic Judgment of Pictures; (Minor Studies from the Psychological Laboratory of Cornell University, Communicated by E. B. Titchener and H. P. Weld) XLII, *E. DeLaski*, The Psychological Attitude of Charles Dickens Toward Surnames; *Clyde B. Moore*, Notes on the Presidents of the American Psychological Association.

THE JOURNAL OF PHILOSOPHY, PSYCHOLOGY, AND SCIENTIFIC METHODS, XV, 12: *Ethel E. Sabin*, Some Difficulties in James's Formulation of Pragmatism; *A.I.duP.Coleman*, "The Most Desirable Macaria;" *Anna T. Kitchel*, Idealism on an Azalea Bush: or Practise and the Egocentric Predicament.

XV, 13: *Phyllis Ackerman*, Some Aspects of Pragmatism and Hegel.

XV, 14: *Morris Raphael Cohen*, Mechanism and Causality in Physics.

REVUE DE MÉTAPHYSIQUE ET DE MORALE, XXV, 2: *E. Durkheim*, "Le Contrat Social" de Rousseau (suité et fin); *G. Milhaud*, Note sur Descartes. Ce qui lui rappelait la date du 11 novembre 1620; *V. Delbos*, L'Art et la Morale.

RIVISTA DI FILOSOFIA NEO SCOLASTICA, X, 2: *Federico Kiesow*, Senofonte ed il daimonion di Socrate; *Guido Mattiussi*, La via alla capacità della fede.

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# THE PHILOSOPHICAL REVIEW.

## MECHANISM, FROM THE STANDPOINT OF PHYSICAL SCIENCE.[1]

THROUGHOUT the modern period science has, upon the whole, moved toward mechanistic interpretations, theories, and conceptions of the forms and functions of living things. Even in the seventeenth century Harvey's great work, the reflections of Galileo and Descartes, and such applications of the new science as Borelli's, brought forth a mechanical physiology. At the end of the eighteenth century Lavoisier, and a little later Saussure, found the true path of chemical physiology; while Lavoisier and Laplace in collaboration founded thermal physiology.

During the nineteenth century every department of physical science has been tested and found useful in the study of organic phenomena, and at length we have won a certain measure of success in describing 'living matter' as a physico-chemical system.

Meantime this movement, though often checked by great and possibly insuperable obstacles, has never been reversed. The

[1] The papers which appear as articles in this number of the Review form the contributions of the five leaders to the Discussion which has been arranged for the next meeting of the American Philosophical Association, to be held at Harvard University on December 27 and 28, 1918. The papers as here published have grown out of a preliminary meeting and conference of the writers. At this meeting a "Basis of Reference" was drawn up to serve as a common background for the separate papers. This has been already published in the *Journal of Philosophy, Psychology, and Scientific Methods*, Vol. XV, No. 17 (Aug. 15, 1918), and is reprinted among the 'Notes' at the end of this number.—Ed.

facts about living things, so far as relevant to physical science, whenever they can be brought into relation with the facts and theories of physical science, have always been found consistent with physical science. Such at least is the opinion of the overwhelming majority of qualified judges.

But this is not the whole story. Both form and function of the organism possess a pattern, and patterns are not often studied by the physical sciences, or at any rate by the abstract physical sciences which we are in the habit of thinking the foundation of orthodox mechanistic philosophy. It is true that Kepler proved that the solar system has a pattern, that Newton explained this as a special case of something which depends upon simple mechanical principles, and that later astromoners have found other examples which obey the same laws. It is true that there is no reason to suppose that all other patterns in space and time may not be explained in like manner. But yet it is certain that the pattern of organization has not been thus explained.

The best available explanation of the pattern of organization is natural selection. But natural selection is at present not stated in mechanistic terms, and, until the logical aspects of this question have been more carefully examined, it must remain doubtful what is to be said about the place of the struggle for existence and the survival of the fittest as physico-chemical processes. Moreover, the measure of the importance of natural selection in organic evolution is in doubt.

Thus the fact of organization remains a cause of both bewilderment and uncertainty among those who study the philosophy and theory of biology. Sometimes this difficulty is magnified because successful investigators remain oblivious to the problem itself; for it is not necessary even to face such questions when working experimentally upon particular questions of biological physics or biological chemistry, and what is unnecessary in successful work may be forgotten in the analysis upon which a synthesis depends. Moreover, the general views of men of science are likely to be naïve because they are sometimes merely the reflections of trustworthy habits of work. This was especially true during the last quarter of last century.

It is for such reasons as these that the controversy between mechanists and vitalists has lately been restricted to the field of organization, and here, disregarding questions of psychology which I do not feel competent to discuss, I shall examine it.

In the first place it should be noted that two anti-mechanistic theories are at present in the field. The one, as held by J. S. Haldane, insists upon the phenomenon of organization as something which belongs to a higher level than physical science, which involves categories that do not belong to physical science, and which in some way annihilates the physico-chemical description upon which, nevertheless, it seems to rest. At certain points this theory is related to the opinions of Claude Bernard and of still earlier French biologists.

The other theory is vitalism proper, and may be represented by the views of H. Driesch. According to Driesch the activities of the organism often involve, at critical moments, the operation of a directing agent or entelechy which is above the physical forces in that it is able, for instance, to suspend the operation of the second law of thermodynamics.

Taking up first the neo-vitalism of Driesch and his allies, I know of no answer that can be made to it but one: The proof that mechanism is not enough to describe and explain certain organic phenomena, such as that which has been set forth by Driesch himself, is not of the character of scientific proof. In the very nature of the case it concerns phenomena which are but little understood, and accordingly it never seems to come to grips with the question. Try as I may, I have not been able to see in Driesch's proof of vitalism more than an interesting and valuable, but overconfident, discussion of obscure subjects.

It is customary to oppose Driesch's arguments with the induction in favor of the second law or the other most general principles of physics, and it is truly said that nearly the whole of physical science contributes to the induction. Nearly, indeed, but not quite the whole. For there still remain uncertainties about the second law which were known to such men as Willard Gibbs, Clerk Maxwell, and Boltzmann; and, as a rule, the best physicists are rather more cautious about claims of exhaustive and rigorous proof than are either mechanists or vitalists among the biologists.

Clerk Maxwell long ago pointed out another difficulty which confronts those who try to meet Driesch specifically. There is an important class of physical phenomena which are habitually avoided by the physicists, and which involve great difficulties for the determinist. These include processes which possess singularities of many kinds, such as the right word at the right time, or, turning to physical phenomena, certain types of catalytic processes. Similar ideas have been presented by Boussinesq and by Charles Peirce. Now it is upon phenomena such as these, doubly obscure because hidden within the living cell, that Driesch founds his case. His opponent is therefore somewhat put to it to stretch the induction of the second law so as to include these critical cases. Most of us feel confident that the second law will hold, but if we claim too much we shall be putting opinion in place of certainty, just as we think Driesch does. And so, for my part, I can only come back to the conviction that Driesch is talking too confidently about things that none of us understand, and that, so far as I can judge, the weight of the evidence is greatly against him. For the well known types of physical phenomena this seems to be established. There is room for a difference of opinion only in certain obscure cases. But there can be no doubt, as Clerk Maxwell long ago said, that such cases are of peculiar importance in the organic world.

The anti-mechanistic opinions of Haldane are of quite a different character. For Driesch the miracle of organization is such that it can exist only by virtue of certain agencies which do not belong to the world of physics and chemistry. For Haldane, who is a thorough-going idealistic metaphysician when not experimenting in the laboratory, physics and chemistry are but imperfect stepping stones to knowledge, and cannot be in question when the miracle of organization is before our eyes. This opinion of an eminent experimental physiologist has proved disconcerting to some of his colleagues, and has been generally misunderstood.

In the first place, as Haldane says, it is not the physical and chemical phenomena, but the organization of them, with which the biologist, as such, is concerned. He must indeed know the

physical and chemical phenomena so as to be able to see their organization. But it is this pattern of organization which is the really biological phenomenon. In short, a knowledge of the pattern of organization of chemical and physical phenomena in space and time leads us on to reality. And then, if I too have not misunderstood Haldane's view, somehow we have only the pattern; time, space, molecules and calories have disappeared.

I can only leave the metaphysical portion of this doctrine to the metaphysicians. For the rest, it seems to me plain that organization is a necessary biological category, that it is not involved in abstract physical science, and that mechanism (as now understood) leaves it out.

If this is true, two questions arise. The first is whether a straightforward description of organization should be regarded as a mechanistic description. Here, as I believe, we are concerned only with a matter of definition, complicated by the fact that physiologists have not yet made great progress in the study of organization, as distinguished from the phenomena which are organized. But, in spite of Haldane's conviction that it is impossible to conceive organization in physical and chemical terms, this seems by no means impossible to most physiologists, and many are plainly making progress in this direction.

Moreover, all the characteristics of the organization of living things are not peculiar to such organisms. Thus it is generally admitted that to speak of the organization of society is more than a figure of speech, and the justification of this view is found in the similarity of regulatory processes and of the conditions of stability in the two instances. It is true that each type of organization has its distinctive characteristics, but in large measure these depend upon the nature of the materials organized.

Another example of organization, no less conspicuous when closely examined, is the meteorological cycle. Here again it is the regulatory processes and the conditions of stability which reveal the true nature of the case.

In short, organization, while peculiarly a biological category, is by no means restricted to the field of biology. It is not, to be sure, involved in the abstract physical sciences, but whenever

particular systems are in question, in meteorology and in sociology as well as in biology, organization is in question. Indeed I can see no objection to speaking of the organization of the solar system. The idea behind these views is as old as Lucretius.

Accordingly, it seems not unreasonable to hold the opinion that the fact of organization is insufficient to overthrow the mechanistic hypothesis, although it must be admitted that a mechanistic philosophy which leaves organization out is meaningless. For the world is made up of nothing but individual systems, in which we find matter and energy, and sometimes organization.

Finally, Haldane's analysis naturally leads to another question. What is the origin of organization? Is it natural selection, or speaking more generally so as to include the thought of Hume and of Lucretius, is it the fact that stable systems survive, and that some kinds of stability involve that which, in the organism, we call regulatory processes?

I cannot answer this question, and I am suspicious of all attempts to answer it. For no one knows whether life has always existed in the universe, or, if not, by what process it first appeared.

Admitting the alternative more favorable to vitalism, we may say that conceivably the pattern of the living organism is not merely the result of a mechanistic process, but that the primitive elements of it may have always existed. This would distinguish it from the organization of the meteorological cycle or of society, and seriously undermine the mechanistic hypothesis.

But, because I seem to see a pattern in the properties of the chemical elements which is, so to speak, predetermined rather than a product of adaptation, and because this pattern involves the very difficulties which are raised by the hypothesis that life has always existed, this last objection falls away.

Therefore, with the qualification that science is far from omniscient, and the reservation that I cannot pretend to judge the problems of psychology, I accept the mechanistic hypothesis as, upon the whole, most consistent with the evidence.

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# MECHANISM AND VITALISM.

IF science had only living things as objects of study, beyond doubt it would now present itself under a very different aspect from that which it has received from the study of the non-living. Fundamental and all-inclusive doctrines, such as radical mechanism, have sprung historically from physical science, not from biology. Biological science is in but an embryonic condition as compared even with physical science. Would full analysis of the phenomena presented by the living yield a body of doctrine of the same kind that the study of the non-living gives us? In what respects would a science based primarily on the living differ from that based on the non-living? Would the final elements reached by analysis be the same in the two cases? Would the laws of change be the same?

The relatively incomplete formulations given by biological science would yield, taken by themselves, only fragments of the various kinds of scientific description set forth as existent in the formulation adopted as a basis of reference in this discussion.[1] Therefore, our examination of the questions just proposed will center chiefly about the underlying relations in the perceptual phenomena which make scientific formulation possible.

The fundamental characteristics of phenomena that in the non-living have given rise to the existing formulations of science appear to be as follows:

1. When studied by the method of experimentation (including inference from the results of experiment, with further experimental test of these inferences), the phenomena have shown such continuities in space and time that diversities in any given characteristic (save those of space and time) are accompanied by diversities in other characteristics. Thus alteration of one characteristic changes others, as when according to the law of gravi-

[1] R. F. A. Hoernlé, "American Philosophical Association; Preliminary Meeting of Leaders of the Discussion on Mechanism versus Vitalism." *J. of Ph., Psy. and Sci. Meth.*, XV, pp. 458–467 (see also pages 672, 673 of this number of the REVIEW).

tation, altering the distance between two bodies likewise alters the attraction between them.

Practically important is the temporal manifestation of these interconnections, in that later perceptual diversities in a system are always preceded by earlier perceptual diversities, which are found experimentally to determine the later ones (in the sense that if the earlier diversities are removed, the later ones disappear). The prevalence of this condition of affairs we call experimental determinism. We may sum up in the statement that *the formulation of inorganic science is a result of the prevalence throughout it of experimental determinism.*

2. The number of *effective* diversities is smaller than the number of separate phenomena distinguishable in space and time, so that there are common features in the distinguishable phenomena, and common results from the common features.

3. The determining diversities and their experimental consequences fall into an orderly system. Types of such partial systems are the three laws of motion; or within these, the laws of the parallelogram of forces. The entire orderly system resulting from experimental determinism constitutes inorganic science.

Does the science of the living show these characteristics? And to what extent is the system it yields like, or diverse from, that of inorganic science?

The various answers proposed for these questions are the theories of vitalism and of mechanism. Many diverse doctrines are held as vitalism, with a correlative number of opposed doctrines often designated as mechanism. Some of these doctrines relate to the general characteristics that have made scientific formulation possible; others to the contents of the formulated science. The diverse vitalistic theories may be grouped in three classes. One class criticizes the adequacy of experimental formulation for the phenomena of life. A second, accepting such formulation, maintains that when applied to the living it yields elements and laws diverse from those reached by the study of the non-living. The third class holds that life reveals the characteristics of the universe more directly than does the non-living, so that biology is more fundamental than physics.

We shall take up in succession these three classes of theories, asking: What would be the experimental situation if the given doctrine were correct?

## I. Doctrines that Criticize the Adequacy of Experimental Formulation for the Phenomena of Life.

Many vitalistic theories hold that the perceptual determiners of events,—those discoverable experimentally—are not 'adequate' to the results produced, at least in living things; that they cannot 'account for' what happens; they do not make it intelligible that the observed phenomena should appear.

It is clearly true that the experimental results produced under many perceptual conditions are to be learned in the first instance only by experience, and are not to be deduced from a previous analytical consideration of those perceptual conditions alone; in this sense the perceptual conditions are not adequate and do not make the results intelligible. Thus Neal argues that "the formula of mechanism" (which he identifies with experimental determinism) is not "adequate to experience."[1] That this is correct in the sense just set forth is I believe generally recognized.

What follows from this? Three different sets of attitudes are taken by diverse thinkers. (1) One set admits that ultimate intelligibility in the sense of the deducibility of all occurrences from something else is not found. The final elements of knowledge—the phenomena and the interconnections of phenomena—are simply observed, not deduced nor 'understood'; their number and nature can be learned only by experience. Intelligibility arises from the observed fact that the interconnections of phenomena, the correspondence of diversities, fall into an orderly system. To seek it anterior to or independent of these orderly interconnections is to seek it outside of that which constitutes it. This is equally true in the living and in the non-living. The work of science is merely to discover the elements and to formulate their interconnections.

A second attitude holds that since the perceptual conditions

[1] H. V. Neal, "The Basis of Individuality in Organisms; A Defense of Vitalism," *Science*, XLIV, pp. 82–97.

do not give an adequate account of the resulting phenomena, it is necessary to assume in addition some non-perceptual agent which does. So, Neal maintains that "individuality (personality) is a phenomenon not determined by the perceptual conditions only, but requiring to account for it the agency of a non-perceptual agent."[1]

Assuming the legitimacy of the demand for this type of intelligibility, the logical conclusion appears to be that the non-perceptual agent occurs *in addition to* the perceptual conditions; there seems here no ground for rejecting the experimental determiners, but only for supplementing them. This attitude is taken more or less vaguely by many. The perceptual things, the things that we see, it is held, are merely the garments of something non-perceptual; they are only signs by which are revealed the spiritual; they "weave God the garment thou seest him by." But these spiritual agents never act without a clothing of the perceptual, by which they may be detected. Thus we can use the perceptual in all our scientific work; it never fails to reveal to us the presence of the underlying spiritual realities.

It is obvious that such a doctrine leaves quite untouched that experimental determinism on which scientific formulation depends. The most convinced experimentalist can hold it without the slightest weakening of confidence in his methods of work. One finds in scientific literature little expression of such views, because obviously the matter has nothing to do with science; but conversation shows that there are many men of science that hold, in a more or less indefinite way, doctrines of this character. It is, I believe, under a hazy impression that the doctrines of Driesch are of this sort that many incline toward such a concept as entelechy. A thinker of high standing informs me that, although he rejects the experimental indeterminism of Driesch, he inclines to accept the remainder of the doctrine of entelechy; this may be typical.

Whatever the satisfaction such beliefs give to other instincts, they obviously do not satisfy that need which leads to the scientific analysis of complex phenomena. This need is based on the

[1] *Ibid*

complexities; transferring these to a non-perceptual agent, as Driesch transfers the complexities of development to entelechy, leaves them in exactly the same need of analysis and explanation as before. Such doctrines therefore can play no part in the work of science.

The third attitude toward the inadequacy of experimental formulation is the result of this scientific impotency of the non-perceptual agent conceived merely as added to the perceptual determiner; such ineffectual ghosts do not attract serious interest. This third view makes the non-perceptual agent play a really differential part; makes it take the place of missing perceptual determiners. It holds that from the same perceptual conditions in different instances diverse perceptual results may flow, depending upon the differential activity of non-perceptual agents, so that the experimenter is bound to find situations in which no perceptual determiners exist for perceptual diversities of result. It rejects experimental determinism (although it may cling to 'absolute determinism,' since the non-perceptual agent is held to determine the result).

I find reluctance on the part of some men of science to believe that there exist doctrines that are confessedly of this character. Yet the doctrines of vitalism that are now most influential are of precisely this kind; the non-perceptual agent must play a part that affects scientific formulation or men of science give it no attention. The vitalism of Driesch, doubtless that most discussed (though in its essence little known), is consciously of this third type; a full grasp of his complex system will show clearly that it is based on experimental indeterminism. As doubt has been expressed of this, it may be best not to leave the assertion to a sustained study which few will make. The question was put squarely to Driesch by both parties to a dispute on the matter, and as squarely answered. Driesch says: "I reject absolute indeterminism, but *accept* experimental indeterminism. . . . Two systems absolutely identical in every physico-chemical respect may behave differently under absolutely identical conditions, in case that the systems are living systems."[1]

[1] See fuller quotations and discussion of this matter in the following papers: H. S. Jennings, "Driesch's Vitalism and Experimental Indeterminism," *Science*,

Many writers have expressed sympathy with the doctrine of Driesch, though whether they realize it to mean experimental indeterminism is not always clear. But Johnstone[1] presents the same sort of theory, consciously following Driesch. Neal[2] defends the same point of view, explicitly including the experimental indeterminism. Bergson[3] as is well known, expressly holds to indeterminism in the living.

The commoner forms of vitalism indeed, though often but vaguely worked out, will be found to assume the production by a single agent of various diverse activities. The favored procedure is the selection, among various courses of action assumed to be possible under given perceptual conditions, of sometimes one course, sometimes another, depending upon the end to be reached. This is of course precisely experimental indeterminism, ineffectually concealed by the common practice of calling this agent by the conciliatory name of 'vital force.'

This type of vitalism has direct bearing upon scientific work; if perceptual determiners for diversities of occurrence do not exist, it is idle to search for them. To the extent that this doctrine is correct the experimental method fails in biology. I therefore propose to examine certain points as to the foundation for this doctrine, referring to my previous papers for discussion of others.

This type of vitalism (as indeed most others) is based mainly on those relations between phenomena that are characterized as teleological; upon adaptive activities and structures.

It must be questioned whether the teleological represents anything diverse in principle from what is given in ordinary scientific descriptions even of the inorganic; whether teleological description is anything more than a 'short-cut' for expressing in brief what could be expressed with equal accuracy in terms

XXXVI, pp. 434, 435; "Doctrines held as Vitalism," *American Naturalist*, XLVII, pp. 385–417; A. O. Lovejoy, "The Meaning of Driesch and the Meaning of Vitalism," *Science*, XXXVI, pp. 672–675; see also H. Driesch, "Ueber die Bestimmtheit und Voraussagbarkeit des Naturwerdens," *Logos*, IV, pp. 62–84.

[1] J. Johnstone, *The Philosophy of Biology*, Cambridge, 1914.

[2] H. V. Neal, "The Basis of Individuality in Organisms; A Defense of Vitalism," *Science*, XLIV, pp. 82–97.

[3] H. Bergson, *Creative Evolution*, New York, 1911.

that would not suggest purpose, but would require more words (and this because language has been built up largely on the basis of human purpose). Among the matters to be described and accounted for are the relative *durabilities* of phenomena. In an investigation of such matters, one would inquire how it happens that a piece of granite is more lasting than a piece of ice; how it happens that certain products of chemical reaction are evanescent while others endure; how it happens that some whirlpools last while others quickly vanish; that some river systems endure while others have disappeared; how it happens that certain processes (*e. g.*, the disintegration of radium) continue, while others are interrupted,—and so would pass without any logical break to the study of how it happens that the systems called living persist as they do (while many of them do *not* persist). In all cases one would find relations between the parts of the systems, on which the durability depends. In the more complex systems (rivers, solar systems, organisms) one would find relations between complex components tending to the maintenance of the system or of its component phenomena. To apply the same terms to these relations that we apply to the conscious purposes of human beings is justifiable only on the ground that these conscious purposes likewise tend to the maintenance of certain phenomena; but it should be done equally for those characteristics of the inorganic that show similar relations, as has recently been done on a large scale by Henderson.[1]

Organisms are complex cyclical systems, a similar train of successive phenomena being repeated in each cycle that constitutes the total life of an individual. In such systems adaptive relations show themselves between phenomena separated in time, and *if we limit consideration to a single cycle* or individual life, as is commonly done, an earlier phenomenon shows evident

[1] L. J. Henderson, *The Fitness of the Environment*, New York, 1913. The conception of the teleological as a matter of durability has been developed by many, notably by W. Roux, (*Der Kampf der Theile im Organismus*, Leipzig, 1881) who was perhaps the first to so interpret it; by P. Jensen (*Organische Zweckmässigkeit, Entwicklung und Vererbung vom Standpunkte der Physiologie*, Jena, 1907); and recently in a valuable paper by R. Lillie ("What is Purposive and Intelligent Behavior from the Physiological Point of View", *J. of Ph., Psy., and Sci. Meth.*, XII, pp. 589–610) who deals with it as the maintenance of equilibrium.

relations to one not appearing till later in that particular cycle, as when the lens of the eye develops in the dark. It is mainly these relations to the future that have raised the problem of teleology.

This problem does not arise from the nature of the single acts involved in adaptive processes; it will be admitted that each of these taken by itself would present no obstacles to perceptual determinism. If shots are made in all directions, some will go toward a particular mark; for those that do so no special explanation, no effect of the mark on the direction of the shots, is required. It is only when the others are omitted and all go toward the mark that the question arises whether the mark is influencing the direction of the shots. Eyes do not now develop in every conceivable way, only one in ten million producing a structure resembling a lens; if this were true, no one would feel that this single case required a teleological explanation. The problem of teleology in complex systems is based on a statistical situation; certain operations tend more uniformly toward a particular mark than appears to be accounted for by determination independent of the mark; and when the 'mark' does not exist (*in the particular cycle under consideration*) until later, the problem takes on its most characteristic form.

Does such a situation exclude experimental determinism? On the contrary, a general method is known by which experimental determinism results in this situation; the knowledge is now a common possession of mankind. It is the method of automatic persistence of one type of activities, or of one configuration, out of many produced or begun. The method is exemplified throughout nature; particularly in physical chemistry, with its study of equilibria and of rates of reaction. In living things it is known that such action takes place on a grand scale. In an extremely gross form we are familiar with it as natural selection. In another we see it, as the formation of habits, producing adaptive actions within the compass of a single individual cycle; out of movements that are at first varied, some become fixed.

In sum, we find throughout nature a method fully intelligible

as perceptually determined in every step, by which a set of acts becomes directed toward an end. The occurrence of such adaptive action is therefore not evidence against perceptual determinism, but results precisely from its operation.

Turning to certain concrete fields, the case for the vitalism that rejects experimental determinism rests largely upon arguments from the development of organisms, as elaborated by Driesch. I believe that it may be correctly said that the advance of knowledge in this field has destroyed the factual basis of Driesch's argument. In an earlier paper[1] I attempted to summarize these advances in their bearing on the problems now under discussion. Space does not permit setting forth the concrete facts here, but certain general relations may be touched upon. Driesch's argument is based fundamentally upon the development and regeneration of what he calls "harmonic equipotential systems"; the eggs and bodies of many organisms are characterized as such. The basis for this concept is the fact that various parts of the egg or organism can produce an entire organism, or other parts than those which they usually produce. Hence it is concluded that all the elements of the developing organism are potentially the same; that any part can produce any part ("*Jedes kann jedes*") that the fate of a part depends upon its position; that the system is "*equipotential.*" From this it is argued that development cannot be determined by any "typical configuration of physical and chemical elements," such as might be called a machine, although perceptually it could not be determined in any other way. It follows therefore that it is not perceptually determined; a non-perceptual determiner—entelechy—must be called in to account for the results.

From this line of argument it might readily be supposed that all parts of such germs are actually potentially equivalent, in the sense that one could be substituted for the other. This would amount to a complete lack of *effectively* diverse parts in the germ, leaving indeed the problem of the method of development into the complex animal in a desperate situation. Such a

[1] "Development and Inheritance in Relation to the Constitution of the Germ," *Johns Hopkins University Circular*, December, 1914, pp. 21–72.

conclusion has indeed been drawn even by men expert in biology; von Uexküll for example asserts that "Driesch succeeded in proving that the germ cell does not possess a trace of machine-like structure," and that "the organization of a structureless germ into a complicated structure is a power *sui generis*," etc.[1]

It appears probable that such a notion is widespread among men not familiar with the facts at first hand.

As a matter of fact, *no such thing as an equipotential system exists* among organisms, if the phrase be taken in any literal sense. Driesch himself remarks that it is only "an approximate, as it were, figurative, method of speech."[2] The "elements" of the germ which are asserted to be potentially alike are in fact each complex systems, in which the parts are by no means effectively or potentially equivalent. Each such "element" contains a visible complex apparatus, known as the chromosomal apparatus. The recent study of genetics has shown that this apparatus is the system on which the peculiarities of development mainly depend. This system is not equipotential; the fate of its parts is not a function of their position; it has a complex structure with a corresponding complexity of action; altering any of its parts alters correspondingly the action of the system; irregular removal or disarrangement of the parts destroys the action. This apparatus visibly interacts throughout development with the less differentiated cytoplasm, visibly producing developmental differentiations. Nothing could be conceived that would furnish a better basis for an experimentally determined and experimentally intelligible course of development.

Now, organisms are peculiar in that each small part of the body contains such an apparatus complete. No part of the body or germ that does not contain such a system will develop. But each part that does contain such a system is capable of developing into an entire body or into any part of the body,—*provided the proper other conditions are supplied*. But this proviso limits the realizable possibilities in a high degree. The nature of many of the necessary other conditions is slowly becoming known, and

[1] "Die Neuen Fragen in der Experimentellen Biologie," *Rivista di Scienza*, "Scientia," IV.

[2] *Naturbegriffe und Natururteile*, p. 181.

the whole furnishes the outline of a natural, experimentally intelligible scheme of operation.

It is extraordinary how precisely the distribution and operation of this apparatus fulfills the conditions set forth by Driesch as a basis for his assertion that no material system ("machine") can underlie development. After setting forth that a machine "might very well be the motive force of organogenesis in general, if only normal, that is to say, if only undisturbed development existed, and if a taking away of parts of our system led to fragmental development," he points out that "there may be a whole development out of each portion of the system, above certain limits, which is, say, of the Volume V. Good! Then there ought to exist a machine, like that which exists in the whole undisturbed system, in this portion $V$ also, only of smaller dimensions; but it also *ought* to exist in the portion $V_1$, which is equal to $V$ in amount, and also in $V_2$, in $V_3$, $V_4$ and so on. Indeed, there do exist almost indefinitely many $Vn$, all of which can perform the whole morphogenesis, and all of which therefore *ought* to possess the machine. But these different portions $V_n$ are only partially different from each other in spatial relation. Many parts of $V_2$ are also parts of $V_1$ and of $V_3$ and of $V_4$ and so on; that is to say, the different volumes $V_n$ overlap each other successively and in such a manner that each following one exceeds the preceding one by a very small amount only. But what then about our machines? Each volume which may perform morphogenesis completely must possess the machine in its totality. As now every element of one volume may play any possible elemental rôle in every other, it follows that each part of the whole harmonious system possesses any possible elemental part of the machine equally well, all parts of the system being at the same time constituents of different machines. A very strange sort of machine indeed which is the same in all its parts." Driesch therefore concludes that "therefore there can be neither any sort of a machine nor any sort of causality based upon constellation underlying the differentiation of harmonious equipotential systems."[1]

[1] The passages quoted are from Driesch, *The Science and Philosophy of the Organism*, Vol. I, 1908, pages 139–141. The discussion is elucidated by a diagram.

Now, if we call the chromatic apparatus the 'machine,' this passage might almost be considered a statement of the observed facts concerning its distribution and action. If the pieces are cut so as to contain one or more of the complete 'machines,' and the other necessary conditions are supplied, each will produce an entire organism. If a piece is left without a 'machine,' or with only an imperfect one, it will not develop.

How the 'machines' are activated and correlated; how development occurs, presents experimental problems in great number, but they are totally diverse in character from the riddle that an actually 'equipotential system' would put before us; they have no implications of experimental indeterminism.

After long standstill, in no field has knowledge of perceptual determination so increased in recent years as in that of development and inheritance; no field yields more full and minute testimony to the existence of perceptual determiners for all sorts of diversities of occurrence. No case can be cited in which perceptual diversities of result are without experimental determiners; in most cases it is easy even now to point these out. The picture of the phenomenal situation on which Driesch based his vitalism has in my opinion been completely superseded.

The condition of affairs just scheduled may be fairly said, I believe, to be typical for the progress of biological science. In chemical regulation and in behavior, which have likewise been exploited for the differential activity of a non-perceptual agent, knowledge is perhaps less adequate than in development. But continued investigation yields steady increase of knowledge of perceptual determination in both these fields. In behavior, the extraordinary complexity of the nervous system furnishes groundwork for a complete correspondence between antecedent perceptual conditions and later occurrences; and study of heredity and of environmental conditions in determining behavior adds evidence in the same direction. Nowhere does a bar to progress appear.

A special position with relation to this problem has often been given to the phenomena of 'conscious states,' which accompany behavior in some living things. On the existence and apparent

effectiveness of these are based the vitalistic doctrines known as psycho-vitalism. If, as may be urged with plausibility (though not demonstrated), these are peculiar to living things, then we have, *ipso facto*, a basis for a purely descriptive vitalism; something occurs in the living that does not occur in the non-living. Beyond this, the legitimate postulate of psycho-vitalism appears to be that diverse conscious states result in diverse actions. Experimental science, in my opinion, has no proper quarrel with this proposition. To the particular individual his 'conscious states' answer all tests for experimental determiners of his actions, and I see no ground for withholding from them this designation. The only ground on which this could be done would be the assumption that they are not, like other perceptual determiners, bound up with objective perceptual phenomena that act in turn as determiners of them. If diverse conscious states (for example, diverse purposes or diverse sensations) may occur and produce diverse actions when all other perceptual conditions are the same, then the 'conscious state' acts precisely as a non-perceptual determiner; and particularly does it play this rôle in the experimentation of an investigator who is not the particular self to whom these conscious states are proper. If the same organism with all objective perceptual conditions identical, may act sometimes in one way, sometimes in another, as determined by diversities of conscious state that are inaccessible to the experimenter, then in biology the investigator is indeed confronted with experimental indeterminism.

There is no experimental ground for the assumption that leads to this result. In all classes of 'conscious states' we know that diversities are experimentally producible by diversities in objective perceptual conditions. The farther investigation proceeds, the more extensive and precise becomes this correspondence. No case is established of a diversity in conscious states that is not experimentally determined by a diversity in objective perceptual conditions. To argue that such occurs is to employ ignorance as foundation for a positive doctrine. The assumed isolation of 'conscious states' is not based upon experimental analysis, but is opposed to it. Experimentally they bear to

other phenomena relations comparable to that between attraction and inertia (mass) as expressed by the law of gravitation; when one changes the other changes, so that each is a condition of the other. The experimental determination of other phenomena by diversities in conscious states, presents no difficulties to the investigator. Since with different conscious states (as with different inertias) there always go other diversities, to the outside investigator these other diversities serve as experimental determiners. That is, the diverse activities have as experimental conditions diverse antecedents both in 'conscious states' and in other phenomena, and the question as to which are the 'real' determiners has no experimental meaning. The situation does not differ from that presented by other phenomena, for the basis for experimentation lies in the fact that no one phenomenon changes without a change in another. It presents no foundation for the common gibe that those who accept it hold that all would occur exactly as it does without consciousness.[1] As well argue that all would occur as it does without gravitation or chemical action, or any other constituent phenomenon of the universe. The fact that these are bound up throughout with other perceptual conditions is no more an argument against their playing a part in the universe than it is against the effectiveness of consciousness. No experimental meaning can be given to the statement that the same conditions without consciousness would produce the same result; for the same conditions do not occur without consciousness.[2]

In all these most difficult fields, the history is one of steady progress in the discovery of experimental determiners, and this coupled with the fact that no cases are found which when fully examined lack experimental determiners, logically leads to the conclusion that there is no bar to the extension of this kind of knowledge in any direction and to any case whatever; that perceptual determiners will be found for any occurrence that is suffi-

[1] See Neal, "The Basis of Individuality in Organisms; a Defense of Vitalism"; *Science*, XLIV, pp. 82–97, for exploitation of this notion.

[2] This impotence of consciousness is a deduction, as will be brought out later, from the narrowest special doctrine of mechanism; thence it has been illegitimately transferred to experimental determinism by opponents of the latter.

ciently studied. The argument against experimental determinism is an argument from our ignorance; but an argument from ignorance is not strong when that ignorance decreases in proportion to the thoroughness of examination.

What is the bearing of the fact that the complex and variable phenomena which there is most tendency to ascribe to the operation of non-perceptual agents, or to consider quite undetermined, occur precisely in connection with the most complex, varied, and changeful perceptual conditions? If they occurred in connection with simple and uniform perceptual substrata, there might indeed be difficulty in supposing antecedent perceptual diversities for all diversities of occurrence. But the bewildering complexity and variety of occurrence in living things is fully met by a correspondingly bewildering complexity and variety of perceptual conditions; the latter set have no more been penetrated by the mind's eye than have the former. This complexity of perceptual conditions underlying the complex activities of life is inexplicable if diversities of action do not require diversities of perceptual conditions.[1] Moreover, the positive fact that the perceptual conditions underlying life are precisely such as would give rise to the sort of phenomena found in the living has been demonstrated at length by Henderson[2]. To account for these things the upholder of non-perceptual determination is logically driven toward some such desperate assertion as that made in pre-evolutionary times to account for the occurrence of fossil remains; they exist in order to test the tenacity of faith of those who cling to determination by non-perceptual agents. To reject the inexhaustible store of perceptual determiners in order to assume non-perceptual ones is to sin against the law of parsimony; it creates entities without need.

[1] See the development of this point by R. S. Lillie, "The Philosophy of Biology; Vitalism versus Mechanism," *Science*, XL, pp. 840–846.

[2] *The Fitness of the Environment.*

## II. Doctrines which hold that Scientific Formulation Applied to the Living Yields Elements and Laws Diverse from those Reached by Study of the Non-Living.

We have tried to show that the progress of science tends to establish the experimental determinism of all phenomena, living as well as non-living. *Such experimental determinism is independent of all doctrines that would require the elementary phenomena and laws to be the same in the living as in the non-living; that hold it theoretically possible to deduce or predict the phenomena of the living from those of the non-living; that would deduce all knowledge from one or a few principles or analyze all phenomena into one or a few elements.* It does not imply or oppose the 'autonomy' of different classes of phenomena. All it demands is a systematic correspondence of later perceptual diversities with preceding ones; what the later diversities shall be, need not be known till they occur. So far as it is concerned, when conditions or configurations not before examined or not before occurring are studied, entirely new phenomena may appear; and these in their turn beget other new ones. It does not demand this, nor does it forbid this. It demands only that if a new phenomenon appears, it shall be the result of a new combination of conditions, not of one that has previously occurred.

Biological science at its present stage can do little to establish or refute, with probability, these special doctrines. The investigations hitherto made do not rule out the occurrence in the living of types of phenomena that do not occur in the non-living. Many phenomena have been set forth as peculiar to the living; the production of but a single one of the two sorts of asymmetrical crystals[1]; the occurrence of objects combining "typical" form with changing physico-chemical constitution (Driesch); non-obedience to the second law of thermodynamics[2]; the occurrence of consciousness. Some of these are complex phenomena, the occurrence of which would not clearly involve new elements or

[1] See W. McPherson, "Asymmetric Syntheses and their Bearing on the Doctrine of Vitalism," *Science*, XLV, pp. 49–57; 76–81.

[2] H. Driesch, "Das Leben und der Zweite Energiesatz;" *Ann. d. Naturphilosophie*, VII, pp. 193–203.

laws. Others are uncertain as to their occurrence or distribution. The most plausible case for new elementary phenomena can be made out for consciousness, but it is not possible to prove that this is limited to the living; Haeckel for example holds it to occur throughout nature. In many cases these supposedly 'new' phenomena are set forth as indices of non-perceptual determining agents, but their occurrence appears to give no indication of experimental indeterminism. Nothing in the history of biological science negatives their occurrence in living things alone.

The most famous of the all-inclusive doctrines derived from inorganic science is mechanism (in the strict sense). A consideration of its relation to biology will best bring out the state of that science in respect to a number of disputed questions.

The essence of the doctrine of mechanism is something as follows: Many phenomena turn out on examination to be merely special cases of certain general relations between a restricted number of elements; general relations that are circumscribed and perspicuous, all following a single general law. For example, the resultant of two forces acting at an angle of thirty degrees may be examined, after resultants from other angles have been studied; the new case is found to be comprehended in the same law as the others. The relations of the elementary phenomena, —electrons, atoms, positions, motions, etc.,—appear to form a system of such limited variability as to be exhaustible by the mind. Distance alters in but two ways; mass in but two ways; angles of action only through the circumference of the circle; and so on, the possible relations being determinate in number and character. And so it appears to be possible to give a complete schema for all possible configurations and motions. All things in motion appear to find their precise places in this schema. To compute the future configurations and motions of any system it is required only to supply the quantitative data for any particular instant.

Mechanism in its more restricted form holds that all configurations and motions are thus determinate and computable. In a more inclusive form it may hold that all phenomena are nothing but such computable configurations and motions. In a

third and intermediate form it holds that any phenomena other than configurations and motions occur at specific and computable junctures of the configurations and motions, so that the laws of occurrence of all phenomena are statable in terms of those of configuration and motion.

What is the relation of biological science to this doctrine in its various forms?

At least some living things present the phenomena of 'conscious states.' There is practically complete agreement that these are not analyzable into 'nothing but' configurations and motions. Grant that they occur at certain configurations and motions, the 'conscious state' adds a distinctive element to these. If this be admitted, it is clear that mechanism in its more inclusive form is not correct for the living; they are not '*nothing but*' configuration and motion.

No one will deny that some conscious states are subject to experimental determination; a weight falling on the foot experimentally yields pain. Such instances show that *not all experimental determination is completely analyzable into the elements set forth by mechanism*; the *thing determined* at least is here something additional.

Does the lack of coincidence between experimental determination and mechanism go farther than this? May the next step in the process—the movement following the conscious state—likewise not coincide with that predictable from a mechanism that does not take into consideration the conscious state?

Here is the crux of the problem of mechanism. Are our actions and those of other living things computable from the system of mechanism, given a knowledge of the configurations and motions of the system preceding the occurrence of the state of consciousness?

Evidently if the schema of mechanism includes the nature of the motions under all possible configurations (which appears not theoretically difficult in consideration of the nature of the schema), then mechanism *can* theoretically predict just what I shall do, without consideration of the state of consciousness that occurs. This is the theoretical situation that results in making conscious-

ness a mere epiphenomenon. If actions can be computed and predicted without taking states of consciousness into consideration, then the latter are not differential determiners.

If on the other hand the conscious state is something that must be considered in the computation; if the computation carried out without it results in a false prediction; then at the occurrence of the conscious state the laws of motion of the particles must become altered. The electrons, the atoms, or other units, now move according to other laws,[1] and a diverse general result follows. If, for example, it is in the laws of composition and resolution of forces that the change comes, then the resultant of the various forces at work would be no longer computable from their number, dimensions, directions and relative angles of action according to the laws that prevailed before the state of consciousness occurred.

This would be strictly compatible with experimental determinism provided the configurations at which the different states of consciousness arose were diverse from those at which there was no consciousness; experimental determinism does not demand that the results of any particular configuration shall be known until it occurs. There is I believe nothing in the results of the investigation of the living that opposes this possibility.

To pursue the matter a step farther, if we assume mechanism for the non-conscious, and hold that the appearance of a particular 'conscious state' is subject to experimental determinism, then the origin of that state would have to result from a particular configuration and motion. After this had been discovered for a particular case, it could be predicted; it would be known that in that situation the laws of motion would change in such and such a way. Such discoveries could be continued indefinitely, for all sorts of states of consciousness. The result would at any time be a system of laws of motion comparable to that of classic mechanism, but infinitely more complex; it would be a mechanism that was always unfinished; at least until the study of all diverse states of consciousness was exhausted.

[1] See the various possibilities set forth by Pearson, *Grammar of Science*, 1911, Chapter IX.

According to the recent valuable review of Cohen,[1] strict mechanism (as nothing but configuration and motion) has not shown itself adequate to the formulation of physics. Certainly therefore it need not be accepted dogmatically for biology. Its claim to be a universal formula is not thus far supported by the science of the living.

### III. Doctrines That the Universe is Biocentric.

A third class of vitalistic doctrines holds that the study of the living better reveals the essential nature of the universe than does the study of the non-living. It points out that the constitution of the universe is such that it produces life; the universe is adapted to that result (Henderson); it is of such a nature that conscious individuals arise in it. Hence it is argued that the nature of the universe would by no means be correctly discovered through a study of the non-living alone. Biology, it may hold, is as fundamental as physics, having its own original relation to reality; revealing what physics does not. All this, it appears to me, is thoroughly consistent with what we know of the living. The doctrine demands experimental determinism, and is based on the concrete results found to flow from it. Such doctrines may be carried farther, to argue that the production of conscious individuals is the central fact of the universe; that it is 'for' this that the universe exists, and the like. With such assertions the doctrine is carried outside the universe of discourse of science.

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[1] "Mechanism and Causality in Physics," *J. of Phil. Psy., and Sci. Meth.*, XV, pp. 365–386.

# MECHANISM VERSUS VITALISM, IN THE DOMAIN OF PSYCHOLOGY.

## I. Definitions.

IT is well, at the outset, to understand clearly what is meant by vitalism and mechanism. Both terms imply activity or change; they refer to processes in nature, not merely to static configurations. The two terms represent more or less contrasted types of process. The point at issue is whether both types actually occur in nature, or whether the changes and activities which take place in the universe may not all be reduced to a single type—the mechanistic.

*Mechanism.*—The distinctive characteristic of mechanistic processes is that the course of events in the sequence is rigidly *determined*. Given a certain set of antecedents, one and the same series of consequents will follow every time. If the total conditions of the situation at a given instant are known (or in so far as they are known), the results can be predicted unequivocally. If the conditions are not known to us, we nevertheless believe that the course of events in a mechanistic system is fixed, certain, unambiguous, determinate, unequivocal.

According to this definition of mechanism, which seems to be the prevailing conception of the term, and is my interpretation of its use in our Basis of Reference, a mechanistic process may be represented graphically as a unilinear series. An indeterminate process is one in which the outcome is not wholly unequivocal. Such a series may be pictured graphically by a line which forks or branches at certain points, representing alternative courses of events beyond these points.[1]

Physical and chemical phenomena, as understood today, are typical cases of determinate activity. The course of events in these domains is generally believed to be unequivocal. These sciences furnish the practical basis upon which our notion of

[1] See diagram in Bergson, *Time and Free Will*, Pogsan trans., p. 176.

mechanism is founded. When we speak of mechanistic processes we have usually in mind activities of the physicochemical type. But the two notions are not identical. So far as present knowledge goes, certain processes in nature, such as the growth of organisms and voluntary acts of human beings, though strictly determinate, *may* involve activities (or forces) of a 'higher type' than the physicochemical. Mechanism represents a generic type; physicochemical mechanism is a specific type which may or may not exhaust the genus.

*Vitalism.*—While the definition of mechanism given above is generally accepted, there is no agreement as to the connotation of vitalism. The name is applied by different writers to several mutually incompatible views which seek to explain vital phenomena in other terms than those of physicochemical activity. In the literature we find three distinct types of theory which take issue with physicochemical mechanism as a general explanation of natural processes. They may be classed together, though the third type is not, strictly speaking, a form of vitalism.

1. *Vital Indeterminism.*—Vital phenomena are held by some to be not entirely 'unilinear'; at certain points two or more alternative courses are (supposed to be) possible, the actual outcome in any given instance being unpredictable. In earlier days this notion was extended to inorganic nature; the actual results in certain cases were ascribed to 'chance' or 'caprice.' So far as I know, this view has no adherents among contemporary scientific thinkers. Equivocal causation is limited today to organic phenomena; the selection or choice is attributed either (*a*) to autonomy, *i. e.*, self-determination of the creature, or (*b*) to the operation of some non-physical agent working upon the material substance of the organism. These qualifications of indeterminism virtually place the interpretation in the next class.[1]

2. *Vital Force.*—Professor Wm. E. Ritter defines vitalism as

[1] As a philosophical theory only—not for purposes of scientific investigation. Driesch, *e. g.*, holds that "two systems absolutely identical in every physicochemical respect may behave differently under absolutely identical conditions, in case that the systems are living systems." (Quoted by Jennings in *Science*, 1912, 36, p. 435.) Driesch regards this view as "experimental indeterminism," but not as "absolute indeterminism." *Cf.* Bergson's illustration cited above.

the view that "something absolutely new and novel came into the world when living beings came, and that this came as a special force, or principle, or factor . . . not material."[1] While this force or factor has not always been conceived as determinate in its activity, it is today generally regarded as *subject to certain laws*. Its workings are held to exhibit certain uniformities, though these are not of the physicochemical type. The vital force is variously designated as *élan vital* (Bergson), entelechy (Driesch), or soul (W. McDougall).

The activity of the 'vital force' is generally characterized as *teleological*. This term is variously defined. Usually it signifies that the choice is determined with reference to something 'yet to come'—that the outcome is not merely the resultant of past conditions.

3. *Non-mechanistic Relationship.*—Certain writers who reject the notion of a specific vital force, nevertheless believe that the activities of organisms are not wholly explicable in physico-chemical terms. According to Kant: "Some products of material nature cannot be judged to be possible according to merely mechanical laws. (To judge them requires quite a different law of causality, namely that of final causes.)"[2] Hobhouse regards a living being as a system of "forces in which mechanical relations are qualified by teleological relations;"[3] and Professor Henderson somewhat similarly defines biological organization as consisting in "a teleological and non-mechanical *relationship* between mechanical things and processes."[4]

Professor Lovejoy describes this type of vitalism as the general doctrine that "the action of living bodies is not strictly a function of the number and spatial configuration of the particles composing them at any instant."[5] Professor Jennings points out, however, that the same may be said of non-living systems also;[6] so that this view, while it is anti-mechanistic, need not take a vitalistic

[1] "Controversy between Materialism and Vitalism," *Science*, 1911, 33, p. 438.
[2] *Kritik of Judgment*, trans. by Bernard, p. 294.
[3] *Development and Purpose*, p. 329, note. (Quoted by Henderson.)
[4] "Teleology of Inorganic Nature," *Philos. Rev.*, 1916, 25, p. 278.
[5] "The Meaning of Vitalism," *Science*, 1911, 33, p. 612.
[6] "Doctrines Held as Vitalism," *Amer. Natural.*, 1913, 47, p. 394.

form. Both Hobhouse's and Henderson's conceptions of non-mechanistic relations might be similarly extended to the inorganic realm. Henderson seems to imply this broader notion of teleology in his discussion of the "order of nature."

## II. THE CASE AGAINST MECHANISM.

The opposition to mechanism as a complete explanation of the processes which occur in nature is thus seen to be of different degrees. The three anti-mechanistic attitudes may be summed up as follows: (1) Certain processes in nature are not determinate. (2) Certain activities of organisms are determined in part by a force or agent which is not physicochemical in character. (3) Physicochemical mechanism prevails universally, but it does not afford a *complete* explanation of certain natural processes; the mechanistic explanation needs to be supplemented by a teleological explanation, which takes account of relations belonging to a different order or dimension from the mechanistic.

The mechanist, on the other hand, believes that the weight of scientific evidence favors an explanation of natural processes stated wholly in physicochemical terms. According to the mechanistic interpretation, not only inorganic phenomena, but all phenomena of organic life, including those in which human consciousness is concerned, are strictly determinate and belong to the physicochemical type.

The case against mechanism is based chiefly upon four lines of argument. (1) *Inconceivability:* A thorough-going mechanistic interpretation of nature is inconceivable and impossible. (2) *Organization:* Mechanism does not explain certain observed characteristics of growth and regulation in organisms. (3) *Voluntary Selection:* Conscious introspection demonstrates that voluntary choice in human beings is not mechanistically determined. (4) *Teleology:* The adaptive character of behavior is not fully describable in mechanistic terms.

These arguments are used alike by all classes of opponents to the mechanistic standpoint. We shall examine them in turn in the remainder of this paper.

*The Argument from Inconceivability.*—The difficulties which

meet us when we endeavor to reach a clear conception of mechanism are not to be ignored. They are such as occur when any new scientific principles are formulated which appear to be at variance with familiar but more limited generalizations. When the theory of the earth's spherical shape was first propounded it was difficult to imagine how men could live at the antipodes without 'dropping off.'

That many such inconceivabilities and absurdities have been rendered conceivable and have eventually been adopted diminishes the weight of this argument. Yet the opponents of mechanism today lay considerable emphasis on the difficulty. Not merely do they point out the need of greater explicitness in defining and describing mechanism; but they assert that the theory at certain points is inconceivable, impossible, or absurd. Such an argument may be characterized as pseudological.

The Kantian logic bristles with this type of reasoning. The passage quoted above is an instance in point. "Cannot be judged" is one shearing-blade of its antinomy; the opposite blade with its "must be judged" is equally sharp. If we smooth down the "cannot" and the "must," the antinomy no longer cuts.

The contemporary neo-Kantians follow in the Master's footsteps. Hobhouse asserts that "the actions of living beings are not explicable in mechanical terms, and we are compelled by the evidence to admit a teleological factor."[1] He may be justified in arguing that these actions *have not yet been fully explained;* but to characterize them as inexplicable is to spar with brass knuckles.

Driesch, for all his scientific training, uses this type of argument profusely: "A theory like Weismann's is impossible."[2] "It would be nonsense to apply the concept of 'quantity' and 'measure' to something which has only to do with the *arrangement* of a manifoldness."[3] "How could a 'machine' be divided and divided and—always remain the same?"[4] As a call for 'more

[1] *Development and Purpose*, p. 329 note.

[2] *Problem of Individuality*, p. 13.

[3] *Ibid.*, p. 35.

[4] *Ibid.*, p. 22. *Cf. Science and Philosophy of the Organism*, Vol. I, pp. 138–149; note the weakness of his argument if the assertion of necessity be eliminated.

light' such arguments deserve respectful attention. As a *reductio ad absurdum* they are not impressive.

W. McDougall's arguments in certain places indicate the same mental attitude: "The behavior of animals . . . is everywhere characterized by certain features which seem to present insuperable difficulties to all attempts at purely mechanical explanation."[1] "Mental chemistry is an inadmissible notion;" it is "strictly absurd."[2] "The difficulties of phenomenalistic parallelism are then very great, indeed insuperable."[3] "Such a state of things [as correlation of pain with beneficial reactions and of pleasure with detrimental reactions] would seem to us profoundly irrational and absurd."[4]

With the argument from inconceivability may be joined its converse, the argument from *a priori* necessity, so familiar to readers of Kant. Both arguments strike the scientist as pseudological. Such voluntaristic terms as *necessary* and *impossible* exert an undue logical pressure which even the out-and-out determinist resents.

The solution of the problem before us, as of any other scientific problem, depends upon *empirical* evidence. The function of logic is merely to imitate in thought the formal relations which prevail throughout the universe. The data of knowledge are drawn from the world about us; our rôle as rational beings is to arrange these data into orderly systems which *tally with the formal relations found in nature.* Pseudological devices carry us away from such correspondence between thought and nature.[5]

*The Argument from Organization.*—The second indictment against mechanism rests upon the phenomena of growth and other vital processes observed in organisms. According to the vitalists these processes are inconsistent with a strictly mechanistic theory. This line of argument has been developed most systematically by Driesch. Certain crucial experiments demon-

[1] *Body and Mind*, p. 258.
[2] *Ibid.*, p. 283.
[3] *Ibid.*, p. 160.
[4] *Ibid.*, pp. 324–325.
[5] In fairness we should note an equally illegitimate tendency on the part of mechanists to characterize the vitalistic position as a phase of mysticism or magic.

strate, in his opinion, that each cell in the organism is "equipotential"; that is, it is capable of building up an entire organism. But, as a matter of fact, he points out, most cells develop only into some specific part of the organism, and the development of each cell harmonizes with that of the other cells in the organism. This would indicate, in his judgment, that the course of development is not wholly physicochemical, but is in some way controlled or directed by a non-physical agent—an entelechy.

The evidence for mechanism on this count has been exhaustively presented by Jacques Loeb in a recent work, *The Organism as a Whole*, to which the reader is referred. According to this array of evidence the phenomena of organic life *do* admit of interpretation in strictly physicochemical terms, so far as scientific research has examined them. The hypothesis of a guiding entelechy appears to be quite as redundant as the hypothesis of an agency directing the movements of the planets in their orbits.

In addition to this direct empirical evidence for the mechanistic character of vital processes, we may notice certain weaknesses in Driesch's argument. (1) His statement of equipotentiality is broader than the facts warrant. The germ cells and certain of the cells which arise in *early* development do indeed appear to be capable of producing an entire organism. But many of the cells which arise in *later* stages of growth are more specialized. They appear capable of producing only certain specific organs or certain kinds of tissue. In the frog a certain type of cell, however situated, develops only into a leg. In man the nerve cells, blood cells, etc., produce only tissues of one type. Such cells are not equipotential.

(2) Driesch's conception of 'mechanism' is too narrow. The machines devised by man are of two distinct sorts—*constructing* machines and *operating* machines. The organism is at once a building mechanism and a working mechanism. The individual cells build up the organism and the organism as a whole performs certain operations of reaction upon the environment. Driesch does not seem to recognize that a mechanism may combine both features.

(3) The structural form which arises in organisms by growth

may be due to the interaction of cells upon one another. The development of any given cell is inhibited or modified by the action of the whole organism upon it. This would explain the "harmonious" development of the entire system as readily as Driesch's entelechy.

The two remaining lines of attack upon mechanism (volition and teleology) touch upon the sphere of psychology and will be examined in greater detail.

### III. THE ARGUMENT FROM VOLUNTARY SELECTION.

The supposed autonomy of consciousness in determining action is used to support the view that vital phenomena are likewise autonomous or self-determined in certain respects. If volition proves to be physicochemically determined, this presumption disappears.

*The Neurology of Deliberation.*—It is now generally admitted that the thoughts which precede voluntary muscular activity depend in some way upon cerebral activity. There are three alternative interpretations of this relation: (1) Thought and neural processes are regarded by some as two *distinct* but *interacting* series of phenomena. (2) They are believed by others to constitute two *independent, parallel* series. (3) They are held to constitute *one series*, which may be observed subjectively as conscious experience and objectively as neural activity. The third view appears to accord with the observed facts, and seems preferable under the rule of parsimony.

The subjective experience of thought consists in a succession of mental states whose causal relation is not directly observed. If the series of events is mechanistically related, the causal description should be expressible in terms of the neural processes which are identical with the conscious experiences. As yet these neural processes have not been measured. That nerve impulses exist we know, and we have considerable knowledge of their pathways.

While an objective description of the process of 'voluntary selection' is still more or less hypothetical, it may be stated in mechanistic terms as readily as in terms of an animistic agency.

During the period of deliberation which precedes volition neural impulses travel now along one path (or set of paths) now along another among the cortical centers. When a neural impulse reaches a motor synapse of low resistance, discharge takes place and certain muscles are contracted. According to the mechanistic view both the central course of the impulse (deliberation) and the motor discharge (volition) follow the line of least resistance.

At least three objections are raised to this as a complete explanation[1] of the occurrence. (1) The succession of thoughts is determined in part by our attitude and conscious endeavors. (2) The actual initiation of the act is a matter of conscious control. (3) We are conscious at the time, or later, that we might have acted otherwise.

Attitude lends itself, however, to description in neural terms. The course of the nerve impulse is determined not merely by the sum-total of present stimuli; it depends quite as much upon past experience. The resistance at each synapse is modified by the impulses which have traversed it in the past, and the sum-total of these modifications constitute the general *set* of the nervous system. This neural set, in subjective terms, is our *attitude*. Laboratory investigations have demonstrated that associations of various types are formed according to certain regular principles. So far as can be judged, each association follows a line of least resistance, which is determined by habit (neural set) and present stimulation.

Conscious endeavor to deliberate is one phase of attitude. In neural terms it is a *set* in some direction. It means that certain central synapses have been made permeable, so that the impulse passes from center to center instead of finding at once the motor outlet.

If we observe intently the actual initiation of a voluntary act (the so-called *fiat*), we find it characterized by extremely vivid consciousness. *Unless* it is intently observed the action takes place of itself. In ordinary cases, then, the neural activity of

[1] As here given the "explanation" is schematic and incomplete. To work out the neural details would carry us beyond the space allotted to this discussion.

volition means simply the passage of the impulse into a motor pathway through a permeable synapse. In certain specific cases this passage is preceded by an *intensive summation* of nerve impulses, and this is the neural equivalent of the *fiat*.

In attempting to describe these phenomena the real difficulty seems due to the complexity of the occurrences, not to their peculiar character. We are dealing with a vast plexus of impulses and resistances. To account for them all is practically beyond our power. Like the problem of three bodies in physics, the outcome is practically unsolvable, but it is nevertheless rigidly determinate.

*The Temporal Fallacy.*—The notion of 'freedom'—of the indeterminateness of volition—appears to rest upon a faulty observation of the time relations of conscious experience. Choice implies that two or more alternative courses of action are presented in consciousness, of which one is selected by the individual. The fallacy consists in assuming that these alternatives are presented in all their strength at once.

When I debate whether to spend my vacation in the mountains or at the seashore, the reasons for and against each course are reviewed successively, not simultaneously. If there are strong motives for each, these motives are considered in turn. When the decision is actually reached it is due to the motives which are strongest at that time. I may afterwards feel that I might have chosen the other course quite as readily. But this is because the motives as *now presented* are different in strength from what they were at the time of decision. The problem of expense may weigh more heavily than it did when a salary check was just deposited; the wishes or welfare of some member of the family may now appear in a stronger light. I read back the present situation into the earlier; I appear to have chosen a line of greater resistance, because this line offers greater resistance at present. Hence the belief that the choice is guided by 'my will' rather than determined by the total situation.

When one picks up a hand at bridge one finds a certain combination of thirteen cards—one out of many million possible combinations. One feels that one might equally well have

drawn quite a different assortment. What do we mean here by 'possible' and 'might'? Merely that a different shuffle would yield a different result. The shuffle *is* different next time, and the hands are different. But the two shuffles are successive, not simultaneous. The possibilities are successive—the 'might' refers to a different situation from the present. In every deal the order of cards is determined by the shuffle; it is a matter of physical forces operating on each card separately and modifying their mutual relations.

Here the situation determines one specific outcome from among many, composing a large homogeneous group, others of which are determined at other times as the situation varies. This is what we mean by *choice* or *selection* from among a number of 'possible' alternatives. The same conception of choice may be adopted in the case of human volition.

To test the determinateness of voluntary selection we should repeat the action under precisely the same conditions. Such a test, however, is scarcely ever practicable. We do not succeed in shuffling a pack twice the same way. Similarly, the situation preceding voluntary choice is always novel in certain essential particulars. Nevertheless, a situation may be new to the individual, and yet may be substantially repeated in different individuals. The temptation to marry, the temptation to commit a crime of some sort, occurs to many persons at one time or another. Mass statistics on both of these phenomena are available. They exhibit remarkable regularity from year to year in a given environment. Even the number of suicides in a community is surprisingly uniform—and this is certainly a new situation in each individual instance. In the case of marriage also the situation is generally novel.[1] Variations in the statistics from season to season and from year to year indicate that the selection is largely determined by temperature and climatic conditions, by food supply, and by factors of the social environment. That is, given an individual's inherited disposition, his choice of conduct in the matter of marriage, crime, and suicide is 'regulated' by environmental conditions, not by his arbitrary fiat.

[1] The statistics do not indicate the number of 'temptations' which are resisted; but this does not affect the argument.

After studying these statistics the writer is more firmly convinced that volition is completely determined by physicochemical antecedents than he is of the fact that inanimate nature is mechanistically controlled. My 'luck' at cards is more difficult to explain without assuming a guardian angel or a malignant demon, than my conscious, voluntary actions.

It is admitted that the evidence does not *demonstrate* the falsity of the animistic interpretation. In every case, organic and inorganic, two alternative explanations are offered: (1) regularity of action, ascribed to an unstable equilibrium of related units in a system; (2) irregular changes, due to an agency outside the material system working upon the units. For the scientist the former interpretation presents the line of least resistance.

## IV. THE ARGUMENT FROM TELEOLOGICAL ACTIVITY.

The vitalistic hypothesis claims support in the fact that organic phenomena bear reference not merely to their antecedents in the past but to future conditions and situations. This is true not only of conscious behavior but of growth and other vital phenomena. I plan and execute my actions with reference to the coming vacation. The development of the embryo yields organs which are devoid of present utility but which later will serve to nourish and protect it. Our description of behavior and growth is incomplete if we merely trace the causal sequence as we do in inorganic processes. The scientific treatment of vital phenomena involves taking into account the future outcome as well as the antecedents.

This is only part of the story, however. In the case of behavior the conditions are extended in *both* temporal directions. The creative activity often has reference to the more or less remote past as well as to the future. A bird becomes gun-shy as a result of some experience. Thereafter when she sees a gun her reactions are conditioned not merely by present stimuli, but by the residual effects of the earlier situation. The mnemonic factor enters into our explanation of behavior in some form or other—either as neural set or as memory image.

There is also an extension of the *spatial* factors in behavior,

though this is not so obvious. An organism reacts to distant stimuli, or rather to distant situations. We converge the two eyes with reference to a certain 'depth.' When the conductor shouts 'All aboard,' we run faster if we are further away from the train. We reach to right or left according to the direction of the object and put forth greater or lesser effort according to its degree of remoteness from us.

The word *teleology* may be used to denote this temporal and spatial extension of the conditions in certain organic phenomena.[1] The recognition of teleology by science does not *ipso facto* imply acceptance of indeterminism. Neither does it involve the admission of exceptions to the general principles of physicochemical action. Teleological activity may be described in terms which harmonize completely with our notions of physical causation. The conception of mechanism is broadened somewhat, but we find no discontinuity-point separating the physicochemical sphere from phenomena of a 'higher order.'

*Distant-reception.*—The principal distant senses of animals are sight, smell, and hearing. In each of these the stimuli come from objects or sources more or less remote from the creature. The stimuli travel toward the animal and affect the appropriate receptor. The stimuli as such are not distant, but the source remains distant and *continues to send out waves or emanations* toward the receptor. The situation is analogous to telegraphy, where a transmitting operator manipulates the key and a receiving operator, perhaps a thousand miles away, receives the message. The transmitter remains at a distance during the entire operation, but his activity and the activities of his instrument play an essential rôle in the process. A complete scientific description of telegraphy involves reference to the source of transmission.

Similarly, distant reception and the resulting reactions are not completely described in terms of the *impinging* stimulus. The distant source is an essential factor to be considered. In

[1] The two terms, *teleology* and *purpose*, are usually employed interchangeably. But *purpose* connotes temporal extension only. On etymological grounds the meaning of teleology may be broadened to include spatial extension of the conditions as well.

explaining telegraphy the recognition of the distant source implies no modification of the laws of causation. It merely indicates a certain complication of the causal processes in such types of activity. The same appears true in distant-reception.

*Memory.*—The mnemonic factors in the antecedents of behavior are not present stimuli, but dispositions of some sort in the cortical tracts. When I recite 'Mandalay' or steer a sailboat around a buoy, the immediate stimuli are not the sole causal factors. Past experiences have altered in some way the central synapses if not the neural substance itself. These 'prepared' central conditions are essential factors in the process; a scientific description of my activity involves taking them into account. This may be expressed in various ways. If may be said (1) that my present cortical set is a factor in my activity; or (2) that my memory of the poem or of the art of sailing enters into the process; or (3) that my past experiences in memorizing the poem or learning to sail are one of the antecedents of the present action. These are all abbreviated descriptions of the temporal extension.

The third form of statement is the most satisfactory, since it emphasizes the earlier occurrences which produced the cortical set and built up the memory. To describe the mnemonic factor merely in terms of present neural dispositions is to miss an essential point. Memory is conditioned by the *original experiences* which produce the set, in the same way that perception is conditioned by the *distant objects* which generate the stimuli.

To say that my reading of Mandalay years ago is one of the 'essential' antecedents of my present memory experience does not imply that time is syncopated—that the 'past' is 'present.' The causal sequence holds in full mechanistic form. But in describing memory phenomena the statement is abbreviated for convenience. Just as we say $9 \times 6 = 54$, instead of adding 6 to 6 again and again, so we speak of the original sensory experience as a direct antecedent of the present recall.

*Purpose.*—When we act with reference to a future situation the causal relation is more complex. In a former paper this type of activity was examined at some length.[1] Briefly, pur-

[1] "A Study of Purpose," *J. of Phil., Psychol.*, etc., 1916, 13, Nos. 1, 2, 3.

posive actions depend upon distant-reception and memory. When a ball is coming toward me I *prepare* to catch it. Part of the future situation is already given through *distant-reception*: I see the ball coming before it reaches my hands. Part of the future situation is also given by the *memory* factor: I represent the coming situation in terms of similar past experiences.

In the article referred to, purpose was defined as an "inversion of the temporal order." This is merely another shorthand formulation. In ordinary causal series the order would be (1) sight of the object, (2) contact, (3) reaction of some sort, such as grasping the ball, eating food, etc. In purposive action part of the reaction (3) precedes the contact (2). Professor Perry[1] points out that in the case of a dog chasing a rabbit the digestive process actually begins before the dog catches his prey. Here the reaction is started before the significant part of the stimulus occurs. Such an inversion of order is characteristic of purpose; it is an *anticipatory* reaction, but the process is mechanistically performed.

Purposive activity is thus seen to be a special type of causation, not a mode of change opposed to the causal type. The same was found true in the case of memory and distant-reception. Teleology in general, then, is a specialized form of causal process, which arises through certain extensions of the spatial and temporal range of the antecedents. Only the complexity, it appears, hinders us from describing the process completely in terms of physicochemical mechanism.

*The Pattern Concept of Teleology.*—Driesch offers as one of his arguments for vitalism the fact that organisms present certain peculiar patterns or forms. Professor Henderson, while denying the truth of vitalism, also emphasizes the pattern or order of certain phenomena in the universe.

These and the more or less similar views of Bosanquet, Hobhouse, and others indicate a sense of dissatisfaction with the postulates of physicochemical mechanism. With the exception of Driesch the authors mentioned admit the universality of mechanistic causation. They believe that the causal process is

[1] "Docility and Purposiveness," *Psychol. Rev.*, 1918, 25. p. 16.

supplemented in some way by another factor which belongs to a different order.

Bosanquet conceives this factor to be the principle of Value, and makes Teleology a subform of this principle. If teleology "is to retain a meaning, . . . it must fall back on the characteristics of value which, apart from sequence in time and from selected purposes, attach to the nature of a totality which is perfection."[1] Psychophysics points the way to a scientific definition of "value," but "a totality which is perfection" conveys no more meaning to the present writer than "a thirteen which is redness."

Driesch's expositions are clear if not convincing. He illustrates his pattern concept by a diagram.[2] On one side are sixteen units arranged to form a square—a regular homogeneous pattern; on the other side these units are arranged in trident form to represent roughly the shape of a plant. The latter form, he believes, can be derived from the homogeneous arrangement only by the action of some non-spatial agency.

This argument, indeed, reaches beyond the sphere of the organic. If the specific forms of organic species are puzzling to account for, the contour of certain inorganic systems is no less so. Why, for example, the peculiar outline of the North American continent? How explain, from homogeneous matter, the pyramidal shape of the Matterhorn, marking the boundary between three great linguistic stocks, each of which terminates at one of the three bases? How account for the preponderance of certain chemical elements in the world and the rarity of others?

Professor Henderson sees the implications of this reasoning and accepts them. Without denying the universality of mechanism in nature, he points to certain facts as evidence that a preëstablished eternal pattern or order exists in the cosmos. In the constitution of the three common elements, C, H, and O, and of certain of their compounds, and in the wide distribution of these elements and compounds, he finds evidence of a "teleological" factor inherent in the universe itself. We need not repeat his catalogue of these peculiar properties, which he de-

[1] *Individuality and Value*, p. 126.

[2] *Problem. of Indiv.*, p. 51.

scribes as *maxima*, as the "fittest possible" for the fostering of organic life.[1]

We may raise at least two objections, however, to Professor Henderson's argument. In the first place it is *ex post facto*. The evolutionist holds that organic life has grown up *as it has* as a result of conditions which *actually exist*. If carbon were absent or rare, possibly another type of organism would have evolved, based upon silica compounds. If the properties of elements had been otherwise, we might expect to find different types of organisms, exhibiting different characteristics. If the earth's surface were mainly land, possibly fresh-water or aerial organisms would have arisen earlier than marine types. In other words, evolution is a process of adaptation to the *given* environment. Whatever environment is present is presumably *fit* for the types of organism which evolve within its limits.

But there is another weightier objection to the argument that the present environment manifests maximum fitness for *any* form of life. The cosmic processes apparently result sooner or later in solidifying any given world. The moon no longer supports life. It is believed that our own earth will also grow cold in time and will no longer afford a habitat for any kind of organic life. If we are seeking for *maxima* of fitness, here is at least one point where the actual physical constitution of the cosmos fails us. It does not rise above the minimum. One may therefore regard Professor Henderson's enumeration of characteristics as an interesting catalogue—and nothing more. It does not establish a *maximum* fitness in the order of nature.

*Teleology and Fitness.*—One important fact remains to be noticed in connection with organization and behavior. Organic evolution is an orderly process—just as physical and chemical processes are orderly; but a further notion, in addition to "regularity," is needed to bring out the full meaning of organic phenomena. This is variously expressed as 'adaptation,' 'adaptiveness,' 'adaptedness,' 'adjustment,' 'suitability,' 'fitness.' The growth of organisms brings into existence certain structures

[1] *The Fitness of the Environment*, chaps. VII, VIII; *The Order of Nature*, chaps. VIII–X.

which *meet the conditions* of the environment. Instincts are evolved which are *fitted* to prolong life. Through the learning-process habits are developed in the individual which are *adapted* to his situation in life.

Fitness may be regarded as a dynamic harmony in nature, which supplements the static harmony of physical phenomena and inorganic chemistry. The term 'harmony,' however, is no easier to define than 'fitness.' What does the general notion of fitness or harmony in organic phenomena imply?

The notion of fitness as applied to organisms implies their viability; as applied to growth-processes and behavior it implies a result which increases the organism's viability. To this extent the phrase 'survival of the fittest' is tautological or inverted. But we find empirically that behavior tends to coördinate in such ways that the reaction is accomplished with a *minimum of energy*—with the *least superfluous motion*. In the processes of growth and regulation a similar tendency is manifest. Vital processes tend to meet the conditions of the environment with a *diminishing expenditure of energy*—with *less friction* or waste motion. This seems to be the physicochemical meaning of fitness or harmony. It is an extension, through the operation of natural selection, of the general principle of equilibrium in nature.

Teleology, in the sense above defined, is the chief factor in producing the state of organic equilibrium called fitness. That is, *distant reception*, *memory*, and *anticipation* all tend to cut out waste motion and accelerate the tendency towards fitness. These processes, together with natural selection, may be regarded as but a further instance of that general 'harmony' which appears in all aspects of the universe.

I see, then, no real difficulty in subsuming anticipation and fitness under the general program of physicochemical mechanism. They may be treated as short-hand expressions for a certain complex type of causal phenomena. We do not regard the processes of multiplication and 'powering' in arithmetic as contradicting addition, nor as novel processes discontinuous with the latter. They are merely abbreviated methods of performing

the addition process. In the same way the scientist may treat purposive activity or either of the other teleological modes as special, complex forms of causation falling under the general physicochemical type. Fitness may be regarded as a special, complex form of equilibrium. As such it belongs within the wider general sphere of mechanism.

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# MECHANISM VERSUS VITALISM AS A PHILOSOPHICAL ISSUE

THE issue[1] raised between the vitalist and the physicochemical mechanist is evidently one that cannot be fully met until the experimentalist secures all the relevant evidence. When this complete evidence will have been secured or that it ever will be secured, of course no one knows. In the meantime we witness two distinct controversies, the one properly engaged in only by experts in physiology, biochemistry, experimental zoölogy and botany, and psychology, the other properly engaged in by any philosophically minded student. In the former controversy the participants set forth the phenomena and properties of living things, examine the hypotheses offered as solutions of problems thereby raised and the evidence on which these hypotheses rest, and weigh the probability that admittedly unsolved problems may in the future be solved by analogous hypotheses. Here the biological expert alone deserves a hearing; and the only part of this field in which I might venture to offer opinions is psychology. However, as even a brief survey of the psychological evidence would require all of my allotted time, I am leaving to my colleague, Professor Warren, the responsibility of presenting the issue between vitalism and mechanism within psychology, and I shall confine my paper to this issue studied only as a philosophical controversy.

Here again I wish to limit my paper. As I have completely

[1] If I interpret correctly our 'Basis of Reference' (*J. of Phil., Psychol.*, etc., Aug. 15, 1918, pp. 460–461) vitalism is to be distinguished from mechanism not by some principles *merely additive* to physicochemistry but by principles that *contradict* physicochemistry. For example, it was the belief of at least a few of the leaders in this discussion that Driesch holds that some vital phenomena contradict the second law of thermodynamics. Accordingly, in this paper I include within mechanism not merely the doctrine that physicochemistry is sufficient to explain life, but also the (neutral, if you prefer) doctrine that merely additive principles may be required; whereas by vitalism I mean any doctrine which teaches that life presupposes entities, agents, or principles which contradict physicochemical mechanism as defined in our 'Basis of Reference.'

lost faith in every form of rationalism and transcendentalism, I must leave to those who retain such a faith all serious study of any *a priori* method of meeting the issue between vitalism and mechanism. Thus limited, the issue as a philosophical controversy has remaining at least three aspects. First, the issue needs to be defined and the rival hypotheses need to be made thoroughly explicit. This task belongs properly to the metaphysician, or logical analyst. Second, the issue is an eddy in the main current of modern European intellectual development and should be studied from the point of view of the historian of philosophy. Third, the issue involves only a part of man's universe of study and discourse and in this sense is abstract. Hence if there can be such a study as that of the concrete total, or universe, then the vitalist and the mechanist must give a hearing also to the student who endeavors to view the problem of life from the standpoint of the concrete total. I shall confine my paper to the two former aspects, the logical and the historical, and leave to my colleague, Professor Hoernlé, any discussion that may be based upon the third study, or that made from the point of view of the concrete total.

Studied from the point of view of the metaphysician, the problems raised in the issue between mechanism and vitalism are no new ones; for they have been prominent in the thought of the past three centuries. At the one extreme is the belief that the universe is logically continuous, is fundamentally a mathematical world; and at the other extreme is the belief that the universe is alogical and can best be described in such prescientific language as that of the layman, the poet, and the animist. That is to say, the issue represents two radically different philosophies, that of modern science and that of modern romanticism.

The philosophy of modern science is manifested in the holding of the following scientific attitudes or principles. First, determinism. This principle asserts that all facts or phenomena can be explained or accounted for, or are conditioned. Two different events presuppose different conditions and these conditions are discoverable. In short, facts can be deduced. Second is the

principle of analysis. This asserts that the complex can be analyzed into the relatively simpler and the structure, or way in which this 'simpler' is organized to make the complex. Third is the principle of simplicity, or paucity. This asserts that the ultimate simples and the ultimate premises upon which explanation, or deduction, rests are relatively few and that science should endeavor to discover their minimum. Fourth is the principle of independence. This asserts that the ultimates of explanation are logically independent, that is, one does not presuppose the others. From these principles follows what is well called the logical continuity of science *as an ideal*. The special sciences tend to order themselves as logically prior or posterior; and as science progresses, we approach as a limit one deductive science in which all the special sciences or bodies of explanation follow from logically prior sciences and these ultimately from mathematical sciences. In short, at the limit there is but one type of explanation and this is mathematical.

Within this larger philosophical creed the part to be included within biological mechanism is evident. All mechanists believe that whatever life may prove to be, no vital phenomena will be found to be inconsistent with physicochemistry; and the extreme mechanist believes that the phenomena both of life and of mind will in time prove to be *fully* explicable in terms of this logically prior science. All believe at least that it is the business of the biologist and psychologist to explain the phenomena studied by them physicochemically *as far as they can*. The extreme position is held, if I mistake not, by Loeb. Of the mechanists who are scientifically less optimistic, some find in mind and others find in both life and mind, that which is logically discontinuous with physicochemical mechanism. The English physiologist Noel Paton holds, I believe, the former position and the English biochemist Benjamin Moore the latter position. According to the former (widely held) position, mind is not inconsistent with the physicochemical but is additive. It may be merely a series of epiphenomena in one to one correspondence with the physiological or it may be a genuinely novel agent, organization, or energy. According to the latter position, life also may be

more than the physicochemical. There may be a genuinely new energy, *a vital energy*. This energy, if I understand Moore correctly, is comparable to molecular energy in that it cannot be exhibited by entities of lower complexity and in that it is the consequence of organization of a higher order. I find at least three distinct and fundamental doctrines held implicitly among these moderate and more numerous mechanists. First, there are facts or phenomena that are non-mechanical but are in one to one correspondence with the mechanical and are to be explained through the configurations with which they correspond. Such a doctrine is held widely among psychologists and is a double-aspect theory. Second, organization exhibits new properties, properties that cannot be deduced from the properties exhibited by the relatively simpler structures that are members of the organization. This view seems to me to be held by Moore. Third, life reveals the presence of new principles or new energies that are logically independent of the properties or energies present in the lifeless. The former properties or energies are, however, not inconsistent with the latter, for they are merely additive. This last doctrine seems to me to be held explicitly in Ostwald's suggestion of a 'psychic energy.'

Though there are evident compromises with vitalism in these moderate mechanistic doctrines, still they all are purely additive to physicochemical mechanism; and they all hold out the possibility of explaining life. They all are deterministic. They all in these two senses believe that science can win in the long run.

In contrast, vitalism, as defined in our 'Basis of Reference,' limits the extent to which the universe of fact, or observable data, can be explained. The extreme romanticist, who as such is a vitalist, tells us that nothing can be explained. It can only be intuited. Or he tells us that only the spatial can be explained; for science is but mathematics, and mathematics, he adds, is a study only of the spatial. The moderate romanticist—the vitalist especially, with whom we are concerned—finds in life, or at least in certain aspects of life, facts that are inconsistent with physicochemical mechanism; and these facts defy explanation, that is, they are indeterministic. Different vitalists of

course differ as to the types of facts they enter upon this list. Perhaps the two sets of facts that are most prominently regarded as indeterministic are the unity or regulation of the organism as a whole, and the teleological or purposeful aspect of vital phenomena. These at least are alogical; and therefore here at least science must forever fail. In place of explanations we are offered terms and propositions that defy further logical analysis. Either they are the mere contradictions of the terms and principles of science, or they are the foreign terms and propositions of prescience. At the best the latter can be intuited or can be described figuratively. Without intending any offense, I must confess that I find these terms and propositions to be of the same type as those of primitive magic and animism. Indeed, vitalism is either an explicit or implicit animism, as the vitalistic psychologist MacDougall most consistently shows.

Now if the history of science reveals anything, it manifests that science became science by outgrowing animism. Science and animism are contradictories. So are science and vitalism the moment the vitalist offers 'an explanation of life.' However, it may be claimed that only rationalism would rule out animism as a possible scientific hypothesis; for if the facts call for this hypothesis, why should not the experimentalist accept animism gracefully? Why slander the open-minded scientist because he is an empiricist? How can we decide *a priori* that animism cannot be true? My reply is twofold. First, of course animism may be true; at least I am not questioning its being true. Certainly there is no *a priori* proof that it is false, or even that nature is not alogical. Second, and this is my only point, animism is not a scientific hypothesis; for animism is not additive to physico-chemical mechanism but contradicts it. Nay more, animism asserts that in part nature cannot be explained scientifically, that nature is in part inexplicable. Animism is fundamentally indeterministic; whereas explanation presupposes determinism. In short, animism is not an explanation; for when critically examined, it proves to deny the possibility of explanation.

Here some may protest: "Some animists are explicitly determinists. They assert merely the existence of an entity with

powers other than those studied in mechanics, physics, and chemistry. Souls may behave as uniformly as do atoms and may lend themselves to experimental enquiry as readily as do bodies." To such protestants I reply: Let us not quarrel about words. Such animism is not the historic doctrine, nor is it the animism of the vitalist. An animism that does not contradict physicochemical mechanism but is merely additive, and that asserts the existence of an entity which lends itself to experimental enquiry, or is deterministic, seems to me to assert nothing more than an unknown $X$, which if known, would explain life. It lacks any positive hypothesis over and above the pointing out of the novelty and uniqueness of life and mind. It is merely the denial of the sufficiency of physicochemical mechanism. It is not the animism of MacDougall; nor is the soul whose existence it asserts, the entelechy of Driesch.

But some may still object: "You do not say what animism *is*; for your description is merely negative." I admit the point and even add, I do not know what animism *is*. Animism defies logical analysis except in negative terms. Of course we are told what a soul does; but we are told also what magic does and what fairies do. The best that I can do in defining such entities is to call them indefinables, or to call them things that can be defined only by negation, or possibly to call them things of which contradictory attributes are asserted. To the logical analyst souls seem round squares. They are complex yet simple. They have structure but remain unities. They are wholes without parts. They are creative agents but need no fuel; for they bring about changes in the physical world merely by their *fiat*. If they explain anything, then I fail to see why they do not explain everything. They belong to the alogical universe so admirably pointed out to us in our generation by the romanticist Bergson, a universe that he shows us is open only to our intuition.

Let us here turn from logical analysis and view vitalism and mechanism as related to major movements in contemporary thought, examining especially the motives behind these rival doctrines. If the preceding analysis has been correct, the issue between vitalism and physicochemical mechanism is part of a

larger conflict taking place throughout the entire history of European thought and in particular of modern thought. It is part of the struggle between modern intellectualism and modern romanticism. It is not merely a difference of opinion arising between two judicial biologists examining facts and weighing evidence; for it is also a difference in religion, or emotional attitude.[1] In short, each intellect betrays the presence of 'a Freudian wish.' The mechanist *hopes* that science will win. The vitalist *hopes* that science will fail. And this is true though both men are numbered among scientists. The wish is father to their thought.

The different consequences of these rival wishes are momentous in the emotional life of man. If science wins, the world will prove to be one in which man is thrown entirely upon his own resources and skill, upon his self-control, courage, and strength, and perhaps upon his ability to be happy by adjusting himself to pitiless fact. If science fails, there is room for the childlike hope that unseen powers may come to the relief of human weakness. If science wins, the world is the necessary consequences of logically related facts, and man's enterprise, in Huxley's figure of speech, is the playing of a game of chess against an opponent who himself never errs and never overlooks our errors. If science fails, the world resembles fairyland, as matter of great anthropological and psychological importance; and man's enterprise either is no longer a task for skill and knowledge or is conditioned by the 'goodness' of man's will or is in part a game of luck. Historically considered, the wish behind the belief in the victory of science is the motive prominently manifested in civilization in general, and in particular in vigorous, progressive, and youthful periods of history; whereas the wish behind the belief in the defeat of science is the motive markedly manifested in a people's childhood and old age, in general in savagedom and in periods of decadence

[1] I find the words of Loeb in the preface of his book, *The Organism as a Whole*, especially apt: "The book is dedicated to that group of freethinkers, including d'Alembert, Diderot, Holbach, and Voltaire, who first dared to follow the consequences of a mechanistic science—incomplete as it then was—to the rules of human conduct and who thereby laid the foundation of that spirit of tolerance, justice, and gentleness which was the hope of our civilization until it was buried under the wave of homicidal emotion which has swept through the world."

or defeat. Psychologically considered, the wish behind the former belief is a symptom of vigor, independence, and mastery; whereas the wish behind the latter belief is a symptom of weakness, fatigue, dependence, waywardness, and failure.

But am I right in finding 'a Freudian wish' behind vitalism which connects vitalism at once with romanticism, or is my assertion of this connection a gross exaggeration? In a sense it is of course an exaggeration; for no civilized man is so much a romanticist that he is never an intellectualist and no intellectualist fails at times to be a romanticist. And what is true of men is true also of man, or the great historical movements. In modern thought the two movements or tendencies are to be found interfused in numerous proportions. Still we are justified in dividing men into romanticists and intellectualists; and we are justified in connecting vitalism with the romantic tendency. At least all romanticists are vitalists. Moreover, a psychologist cannot read a markedly vitalistic or a markedly mechanistic book without detecting on the one hand the complete absence of regret on the part of the vitalist that if his vitalism be true, science cannot explain life, and on the other hand, the desire of the mechanist that science should win. Compare, for example, Driesch and Loeb. No one can call them neutrals examining a body of evidence.

Consider further what may be called *the impatience of vitalism.* All admit that the study of vital phenomena reveals everywhere unsolved problems; but the vitalist seems to forget that the past one hundred years have had a marvelous record of physiological and biochemical victories. Again, the vitalist seems to neglect the truth that whatever life may prove to be, part of the seeming failure of science is certainly due to the fact that life has proved to be vastly more complex than the biologists even of a generation ago believed it to be. For example, the vitalist seems completely to neglect the fact, as Professor Henderson has pointed out, that we are still ignorant of the physicochemical structure of the living cell and that until we do know this structure no one can know how far physicochemistry can or cannot explain life. If the ambitious hopes of earlier days have proved absurd, this is not

due to an inability of science to progress; for science has progressed beyond even the dreams of our fathers. Rather it is due to the immense but unknown complexity of nature. What then would be the reaction of one of a judicious mind toward our present obstacles and failures and toward our vast ignorance? Would he not reserve judgment, admitting our ignorance and difficulties but at the same time urging the experimentalist to keep trying? Would he admit the failure of science and urge a rival anti-scientific hypothesis? The answer seems to me evident: we are not dealing with a judicial mind.

Here at once the advocate of the vitalist will protest that my question is unfair. It is not because of our ignorance and failures that the vitalist is ready to admit the permanent failure of science, but because we have positive evidence that science must fail. We have positive evidence that life contradicts the physicochemical; for *it is inconceivable that a machine can do what life does.* Now it is not my purpose to examine the evidence here in question, for that would require an expert biologist; but I do wish to examine this protest as a logician and a psychologist.

The argument from the inconceivable is utterly fallacious; for it is really only an argument from ignorance. That machines, as we know them, should do things inconsistent with their properties is indeed inconceivable; for it contradicts a mere truism. But nothing can be inferred regarding physicochemical machines as we do not know them; for whether or not there are such machines and what they can or cannot do—all this remains to be discovered. Is the living cell merely a physicochemical machine? We do not know. If it is merely a machine, what can or cannot this machine do? We do not know; for never have we observed mechanism of such complexity. We are, as it were, savages disputing regarding the nature of a thunder shower. The chemistry the vitalist pronounces inadequate to explain life, is of course the chemistry we know. From all of which nothing follows regarding the chemistry which we do not know. Again, it is urged, that a homogeneous entity should of itself undergo differentiation is inconceivable. True, but it is certainly an open question whether or not the ovum is such a

homogeneous entity. At best we are ignorant.[1] Finally, it is urged that it is inconceivable that a machine should have two or more different lines of action open to it at the same instant. Of course it is inconceivable, if the very definition of a machine makes it a contradiction in terms. But do we know regulation, regeneration, and similar vital processes well enough to prove that they are truly comparable to the behavior of this inconceivable machine? We do not.[2] In short, the argument from the inconceivable reduces to some such statement as this: If the living organism is a mere chemist, it is a vastly better chemist than we are. Limited to our present practical chemistry, its deeds seem miraculous.

But philosophically this argument from the inconceivable has another fallacy; for the vitalist who pronounces life an inconceivable physicochemical process, and therefore scientifically inexplicable, offers himself at once an inconceivable explanation. By mere definition he gives us a miracle-worker; but surely such a definition does not make miracles conceivable. In short, he does not object to the inconceivable as such. What then is he really trying to prove? That life is really inexplicable, that it can be observed, but that it cannot be understood. He is a romanticist.

Vitalism as a positive doctrine and vitalism even as a mere negative doctrine are interesting also psychologically. Animism is clearly 'a call of the wild'; and agnosticism also has been a notorious aid to faith by making room for the will to assume primacy over the intellect. That is to say, the very fact that the vitalist does more than reserve his judgment is psychologically suspicious. It is evidence not merely that he does not want science to succeed but also that he wants something positive. He wants life to be genuinely creative, that is, to possess powers which are inconsistent with the principles of physical science.

[1] But Professor Conklin and others are showing that the cytoplasm of this cell is already differentiated into zones that are to become different parts of the embryo. In short, the ovum is already the embryo. *Cf.* Loeb, *The Organism as a Whole*, pp. 128 f.

[2] For example, regeneration instead of being an assumption of a new line of action on the part of living tissue may prove to be merely an old line of action heretofore inhibited but now freed from the inhibitor.

He wants life to be indeterministic and mysterious. He wants the world to contain creative teleological agents; for such a world seems more in tune with the heart of man. In short, he wants the religion of romanticism.

In contrast, the mechanist also has a religion, but a different religion. He wants the world to prove simple, explicable, and manageable. He wants man to be lord of creation and master of his destiny. He wants man to be self-sufficient, self-controlled, and morally the ultimate jury. For him, man's supreme enterprise is civilization, justice, and enlightenment.

If the foregoing analysis of the two rival hypotheses is correct, we now face the question: Which is true? Can philosophy answer? I believe it cannot. The ultimate test of truth and right is not logic or argument, but fact or perception. The most that philosophy as a scientific pursuit can do, is to lay bare or make explicit the dogmas, hypotheses, terms, and inferences of men. It cannot give them their sciences, their morals, or their religion. With Fichte, I would say that a man's philosophy depends upon what sort of a man he is; for at bottom argument depends upon a willingness to conform to certain rules and to adopt certain premises and the adoption of these rules and premises must precede the argument. In short, the controversy between physicochemical mechanism and vitalism is not one regarding facts, or observed data calling for scientific explanation, but is one regarding rival philosophies. And the destiny of these rival philosophies the future alone can reveal; for the past reveals them only as rivals.

What, however, the philosopher, the historian, and the psychologist can discuss, is the consequences of the rival philosophies if consistently carried out in action. That is, we can meet the issue pragmatically. If we state what we want, these students can help us to choose our philosophy. If we want civilization, if we want man to depend upon his skill rather than upon hypnosis, we must encourage him to try to understand his environment and himself and to learn how to control himself and his environment. If we want enlightenment we must encourage experimental research and the belief in determinism which it presupposes, we must encourage men to believe in a logical world.

If we want man to be master of his destiny, we must preach the religion of effort, and of self-confidence. However, if we want the life of the vagabond, the adventurer, or the quitter, or if we want peace and rest; then we need a philosophy which leaves open as a credible religion that of animism, magic, and hypnosis.

To stop here would be doing romanticism and vitalism a gross philosophical injustice; for there are other wants, wants possessed even by extreme intellectualists. From the point of view of these wants, intellectualism has its dangers and romanticism has a most valuable protective influence. Intellectualism is liable to the faults of youth and adolescence. It is liable to be overconfident and even arrogant. It is liable to be doctrinaire, to be satisfied with a simple solution of complex problems; whereas complex problems require complex solutions. It is liable to become a dogmatic rationalism and to forget its own inductive and experimental origin. It is liable to forget that fatigue and old age are facts and that as facts they too have the right to be heard as witnesses. Finally, it is liable to forget that even science admits the possibility or even probability of the ultimate failure of civilization and of man's other enterprises, that all that the heart of man desires may not be obtainable through human skill, that man's powers are limited and that nature may prove to be too refractory. In particular, against the mechanist's liability to rationalism vitalism is a corrective because of its empiricism. It keeps pointing out new facts, new problems, and new difficulties. In so doing, it seems to me, that vitalism has already been of marked help to biological science; for it has turned the attention of the biologist to presuppositions in his theories which he was overlooking. Again vitalism protests against the tendency to over-simplify, a tendency present throughout the history of science. Whatever life may be, it is far more complex than it used to be thought to be. Here too I believe that vitalism has been a most valuable check to the self-confident mechanist. Finally, vitalism is a protest against the tendency to minimize the teleological that as mere fact is present in life, no matter how it is to be defined and explained.

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## MECHANISM AND VITALISM.

1. The problem of Mechanism and Vitalism may be regarded as single, but it is certainly far from simple. Recent discussion has shown it to be the meeting-point of a veritable maze of questions, touching experimental facts on one side and logical principles on the other. What is meant by 'mechanism'? What are the limits, if any, of a mechanistic explanation of natural phenomena? How many different types of theory sail under the common name of 'vitalism'? Do living beings in their structure, growth, behavior exhibit features incapable of being explained in physico-chemical terms? If so, must we refer them to a special vital force? What is the nature of this force? What is its mode of operation? Can any theory on this point be tested and verified by experiment? If not, is such a vital force anything more than a fiction, at least for a science which seeks to be strictly empirical? Yet, without such a factor, is there any way of accounting for the difference between the living and the non-living? What, again, is the relation of biology to physics and chemistry? Is it a department of these latter sciences, or is it autonomous, with a field of facts and with characteristic concepts of its own? Suppose we decide for its autonomy, how does this affect the ideal of a unified theory of nature? Does this ideal commit us to seeking the explanation of all facts in terms of the smallest possible number of concepts? And should these concepts be taken exclusively from the physical sciences?

These and similar questions have been interwoven in the recent literature of our topic. They are obviously closely connected with one another, yet no less obviously a discussion of each of them on its merits requires an expertness in so many different fields of knowledge, that hardly any single thinker nowadays can hope to handle with equal competence all sides of the problem. The best results may be expected from the sympathetic coöpera-

tion of scientists and philosophers. And if coöperation is spiced with a dash of controversy, so much the better. For controversy is the medium in which theories grow in precision and have their logical stability searchingly tested. Nor ought we to forget, on this occasion, that to the historical development of mechanism and vitalism philosophers and scientists have equally contributed. It is enough to recall, prior to the nineteenth century, such names as Aristotle, Bacon, Galileo, Descartes, Newton, Leibniz, Hume, Kant, in order to realize that our topic has been one of the chief meeting-points of experimental research on the one side and philosophical speculation on the other. It is no mere accident that Hans Driesch, in thinking out his vitalistic theory, found himself driven into fundamental problems of logic, and that the advocate of a mechanistic theory, on his side, is much more of a 'speculative' philosopher than he is himself aware of. We may thus take it as a happy omen that scientists and philosophers have been found willing to coöperate in our present discussion.

2. The thesis which I shall try to support, and the bearing of which on some of the problems above enumerated I shall try to draw out in the following sections, may be summed up in the formula: Not mechanism *or* vitalism, but mechanism *and* teleology. The 'universe of discourse' of our discussion is best described, in Henderson's happy phrase, as "The Order of Nature"; and biology is our best door of entry into it. For biology can hardly avoid the *larger issues of context* which are suggested by the appearance of living beings in nature, of organisms built upon and growing out of the inorganic. However much the worker in biology may seek to limit himself to the phenomena of life *as such*, to the problems of structure, growth, behavior, without troubling himself about the larger questions of the origin and status of life in the system of nature as a whole, still even the most superficial acquaintance with biological literature shows that such isolation is largely artificial, and always on the point of breaking down under the pressure of the desire for fuller knowledge. It breaks down, first of all, because, whilst physicist and chemist can ignore the phenomena of life, the

biologist cannot ignore the phenomena of physics and chemistry. The living beings which he studies, whether single cells or multicellular organisms, are far too obviously physico-chemical systems. Once the breach has thus been made, the whole tide of wider issues sweeps in. Beginning with the difference between the living and the non-living, there comes next into view the problem of the way in which the phenomena of life are conditioned by their occurrence in bodies, *i. e.*, in physico-chemical systems, and, again, by an environment, partly itself composed of living things, partly non-living. And once this point has been reached, the "order of nature" confronts us as the context within which the other questions must find their answers. Our 'Basis of Reference,' however it may be criticized in detail, seeks at least to give a summary impression of this order of nature, which is both an order of objective phenomena and a corresponding order of the sciences which give us the truth about these phenomena. It seeks to do justice, also, to the continuity of nature on the one side, and, on the other side, to the broad qualitative differences which we find within it, and which appear to demand an ascending, or, at least, a cumulative arrangement.

Within this universe of discourse, then, of biology expanded into the problem of the order of nature, the formula "not mechanism *or* vitalism, but mechanism *and* teleology" is to be interpreted. It means that we ought to replace the disjunction of mechanism and vitalism as mutually exclusive alternatives by the conjunction of mechanism and teleology. It demands that these concepts be treated as cumulative in the order of nature, and, therefore, teleology as *logically dominant* over mechanism in biology. So far as I can judge, the arguments against vitalism are decisive, if by 'vitalism' we mean the theory that in all the things called 'living' there is present some non-mechanical, non-spatial, semi-psychical force or factor—whether biotic energy, or entelechy, or *élan vital*—which yet has the power to interfere by way of regulation or control with the physico-chemical processes in the body; which can suspend the second law of thermodynamics; which can select for realization one of the physically open possibilities; which can create novelties, not

only unpredictable in advance but inexplicable after they have occurred. Vitalism in this sense I do not want to save, and this is the sort of vitalism between which and mechanism the choice for biology is usually said to lie. But whilst it is part of my thesis to reject vitalism on its merits, it is also part of it to reject the whole disjunction of vitalism and mechanism, acceptance of which would commit us to the affirmation of mechanism by the denial of vitalism. It is here that the second half of my thesis, "mechanism *and* teleology," comes into play. This is intended to give full scope to mechanistic theory to carry us as far as it can, but it is also intended to maintain that there is a sound sense in which it is true to say that the phenomena of life cannot be explained, or, better, formulated, in physico-chemical terms. Or, to put the positive side of the contention, teleological terms are required, not as substitutes for physico-chemical terms, but as fixing what I call the 'dominant' character of life-processes to which their physico-chemical aspect is subsidiary. The relation is easier to illustrate than to put into words. We find it, so it seems to me, wherever in nature there appears a new stratum or level, a new type of quality, or of structure. In the theory of colors, *e. g.*, or of sounds, the 'dominant' concepts are derived from an analysis of colors and sounds themselves—colors as such, or as actually seen, sounds as such, or as actually heard—and it is only the ordering of these data in terms drawn from their own nature that gives relevance to the subsequent correlation of color-differences or sound-differences with difference in the rate of vibration of some elastic medium. So, again, the dominant concepts of chemistry are patently derived from a study of the properties and states of elements and compounds in their relations to one another under varying conditions of temperature, presence of catalytic agents, etc. And it is not as a substitute for, but as a supplement, that we seek to correlate these facts and their laws with facts and laws of the physical structure and relations of atoms or whatever the ultimate constituents of matter may be. So with the phenomena of life. The dominant concepts required for an adequate theory of them are, on the view here maintained, teleological, but this

involves no denial of their physico-chemical aspect, or of the importance of discovering the physico-chemical arrangements and processes on which teleological characters and relationships are built. To forestall misapprehension, however, I ought to say at once that, when I speak of teleological concepts, I do not mean a design, or plan, or purpose, or desire consciously entertained by any mind, be it of God, of man, of animal, or of plant. We need teleological concepts freed of these implications; concepts so general that conscious designs or desires are but a special type falling under them. The way seems to me opened here by the concept of *value*, the introduction of which permits us to read relations of cause and effect as also relations of means to ends. The one reading belongs to mechanism, the other to teleology. The two readings do not exclude each other but are compatible, and, where the teleological reading is possible at all, cumulative. Life requires both readings, but the teleological reading must be dominant. This is my thesis.

3. One of the corollaries of this thesis is the 'autonomy of life,' or to put the same point from a different side, the autonomy of biology. Now, in one sense this is, of course, a truism, which no one, when the point is put up to him, seriously wants to deny, and to insist upon which, therefore, may seem a work of supererogation. Thus a convinced anti-vitalist, like Claude Bernard, is found writing:

"Je serais d'accord avec les vitalistes s'ils voulaient simplement reconnaître que les êtres vivants présentent des phénomènes qui ne se retrouvent pas dans la nature brute, et qui, par conséquent, leur sont spéciaux. J'admets en effet que les manifestations vitales ne sauraient être élucidées par les seuls phénomènes physico-chimiques connu dans la matière brute . . . La biologie doit prendre aux sciences physico-chimiques la méthode expérimentale, mais garder ses phénomènes spéciaux et ses lois propres."[1]

The same autonomy obviously can, and ought to, be claimed

[1] *Introduction à l'étude de la Médicine Expérimentale* (1865), p. 118. For a similar statement, see H. S. Jennings, *Am. Journal of Psychology*, 1910, pp. 349–370. For A. O. Lovejoy's comments see *Science*, N.S., Vol. XXXIV, No. 864, pp. 75–80 (July 1911), and his paper on "The Unity of Science" in the *University of Missouri Bulletin* (1912), Vol. I, No. 1, esp. pp. 22 ff.

by every science for itself and for the field of phenomena which it studies. So much seems to me rightly implied in our 'Basis of Reference.' All the differences which experience reveals in the world are, in this sense, unique, specific, *sui generis*. Why, then, is it worth while insisting on such a truism? Because there is a noticeable tendency in many quarters to deny it, in effect, by the way in which the ideal of a 'unified' theory of nature is interpreted. This interpretation constantly takes the form of claiming to 'reduce' one type of phenomena to another, of treating one as *nothing but* another. Life, *e. g.*, we find it said, is 'merely' a particular kind of physico-chemical process. Interpreted as a denial of vital force or entelechy, the statement is harmless enough. But it is harmful, or at least dangerous, in so far as the unique and distinctive character of life-processes is left completely unspecified and undetermined in this sweeping assimilation of them to physico-chemical processes in general. If we ask, *What particular kind* of physico-chemical process? it becomes clear at once that physico-chemical terms are not sufficiently specific and relevant for the answer required. In view of this situation it is of the utmost importance to insist that the attempt to eliminate differences, to break down boundaries, to unify by the 'nothing but' device, makes, not for orderly, but for disorderly thinking and does a disservice to science. The phenomena of life require to be dealt with first and foremost in their own teleological terms, and this not as a mere convenience of provisional 'description,' but as a necessity of adequate 'explanation,' or, better, of *understanding*.

The principle of the autonomy of life, then, means the right to use in biology teleological concepts. That biologists constantly *do* use such concepts, is too familiar a fact to require illustration. Some frankly confess that they cannot help using them. Others are apologetic about them, as if they were a temporary makeshift pending the formulation of an 'explanation' in physico-chemical terms. The thesis here maintained is that the use of teleological terms is not a symptom of relative ignorance. It is not a sign of the inferiority of biology to physics and chemistry. The principle of the autonomy of life should be for

biologists a charter of emancipation from the false fashion which leads some thus to depreciate their science. It should be a watchword reminding them to have the courage of their practice, and to insist on their right to use the language demanded by the facts with which they deal. That those who are really consistent in eliminating all teleological concepts from their thought and from their language—and this is patently the ideal which some 'mechanists' strive to realize—are compelled to misconceive and misdescribe the facts, can, I think, be shown. As an example of the kind of argument which brings this point home to one, I would like to refer to the criticism in E. B. Holt's *Freudian Wish*,[1] of the biologists who, in their anxiety not to compromise themselves with animal souls, analyze, *e. g.*, a bee's behavior into successive responses to visual, auditory, olfactory, etc., stimuli, and over it all lose sight of the *bee* and of the dominant fact that "the bee is carrying honey to its home." It is noticeable that the analysis of Bethe's which Holt here criticizes is itself still far removed from using strictly physico-chemical terms. Suppose, then, we push the issue back to the point to which a convinced mechanist must want to push it. Is not, let us ask, the bee's flight a case of the motion of a material body, and must it not as such conform to the laws which physics has formulated for matter in motion? Of course it is, and we may readily grant that, even though the flight of a bee, or the antics of a monkey in his cage,[2] or the behavior of any other living thing have not yet been formulated in terms of mechanism, yet 'in theory' this can be done. The reason why it has not at present been done lies in the exceeding complexity of the phenomena, not in any inapplicability of the laws of matter in motion owing to their being suspended, or interfered with, by some vital force. The important point is: supposing it were done, would it be relevant? Would it really explain, *i. e.*, give us a fuller insight into, what the bee is doing and why, than the account in teleological terms that it is laying by honey in its home? The moral of these considerations is that biology not only does, but may, not only may, but must,

[1] P. 77.

[2] See A. O. Lovejoy, *Unity of Science*, *l. c.*, p. 16.

use teleological concepts, and use them, moreover, as logically dominant over all other concepts which for subsidiary use it may borrow from other sciences. That all living beings, or, better, living bodies, are physico-chemical systems is here conceded and, indeed, insisted upon as much as the most whole-hearted mechanist can desire. But what I would also insist upon is that when we study living beings exclusively from the physico-chemical point of view, their character as *living* does not come within our field of study at all. From that point of view the difference between living and non-living is simply irrelevant. So far from being explained, it is rather ignored. It is not part of the physicist's or chemist's universe of discourse. Witness the transformation of the meaning of 'organic' in the chemist's language. The term there has lost the exclusive reference to the living which it retains in the biologist's mouth, and applies for the chemist to all carbon-compounds whatsoever, regardless of whether they are found or produced in the living or in the non-living. This, surely, is instructive. And the moral of it is that the biologist who knows his business will not try to 'reduce' himself to a species of chemist. Indeed, it is only on condition of his keeping his teleological categories dominant, that the investigation of the chemistry of vital processes becomes for him relevant and significant. He must first recognize a living thing or a living process *as such*, before the study of its chemical side or basis becomes important for him as throwing further light on his topic. In short, if our topic is carbon-compounds, life and the concepts it involves are irrelevant to us. But if our topic is life, then the laws of carbon-compounds, so far as these occur in vital structures and processes, are relevant, not because they reveal to us, as it is sometimes said, the 'secret' of life, but because a knowledge of the chemical processes involved in life (or, put differently, of the chemical bases or conditions of life) is part, but not the whole, of an adequate knowledge of life. Nor is biology in any way inferior to chemistry and physics, because it uses them ('depends' upon them, as it is sometimes ambiguously expressed), so far as they are relevant for its purposes. Its cognitive interest is centered, first and last, upon the study of living beings, their struc-

ture, their growth, their behavior. Their characteristic nature as *living* clamors for recognition in specific concepts. This is the situation to which the vitalist has the merit of calling attention, though he misinterprets it when he invokes entelechies or what not. This, again, is the situation which gives rise to the familiar assertion that 'no physico-chemical explanation of life is possible.' Such an explanation is impossible, not because of the operation of a vital force, but because, however detailed and complete in itself, it would neccessarily fail to touch the specific character of vital phenomena. To repeat: the principle of the autonomy of life, as here interpreted, means, not vitalism, but teleology—and teleology as compatible with, but logically dominant over, mechanism in biology.

4. This thesis may be challenged on the ground that it conflicts with the aspiration of science to achieve such an organization of knowledge as shall enable it to *deduce* vital phenomena from physico-chemical phenomena. Very commonly in recent literature this ability to deduce is identified with an ability to *predict*, and neither is held to be possible except on the basis of a mechanistic theory of nature. In fact, the *reduction* of organic processes to inorganic processes is, according to this view, undertaken chiefly in the hope that it will enable us from purely physico-chemical data to deduce, *i. e.*, to predict, vital phenomena, say the behavior of an animal in a definite situation. Thus Wilhelm Roux, in his *Entwickelungsmechanik*, formulates the mechanistic programme in the words, "*Das organische Geschehen auf anorganische Wirkungsweisen zurückzuführen, es in solche Wirkungsweisen zu zerlegen, zu analysieren.*" So keen a student of mechanistic and vitalistic theories as A.O. Lovejoy expands this formula as follows: "In what would a *Zurückführung* of biology to chemistry or physics consist? It would consist in showing that a given organic process A can be subsumed under and *deduced from* a given generalization B of the more "fundamental science."[1] In another paper this is further expanded as follows: "What the partisans of the doctrine of organic autonomy deny is that you conceivably ever can, from a study of the laws

[1] *Science*, N. S., Vol. XXXIII, No. 851, p. 611.

of motion of inorganic particles, arrive at a law from which you can predict how any living body will behave, *even if you know the number, size, arrangement and composition of the particles composing that body.*"[1]

Before passing to the particular issue of the predictability of organic phenomena, it may be as well to say something about prediction in general, to which, so it seems to me, an altogether exaggerated importance is assigned in modern theories of the function of science. Claude Bernard had a sounder view. "*Toute la philosophie naturelle,*" he writes, "*se résume en cela: Connaître la loi des phénomènes. Tout le problème expérimental se réduit à ceci: Prévoir et diriger les phénomènes.*"[2] This distinction is surely well taken. It is a valuable corrective of the fashionable view which makes prediction the main interest and business of science, and treats the discovery of laws as nothing more than a means to prediction. Indeed, I would go even further here than Claude Bernard, and regard prediction, not as a co-ordinate aim of science but as incidental to the experimental discovery of laws (in the process of verifying hypotheses) and as dominant only in the practical application of scientific knowledge in industry. From this point of view it is a mistake when the typical formula for a scientific law:—If $A$, then $B$, is read off as essentially a prediction:—If $A$ happens, then $B$ will happen; or, If you do $A$, then you will get $B$. Fundamentally, a law is a statement of a functional correlation between variables. 'If $A$, then $B$' means '$A$ implies $B$,' and there is no exclusive or essential reference in this formula to the anticipation of future events. It would, moreover, be wholly false to restrict science to a preoccupation with the future. Science is as much interested in the past as in the future, and its problems as often take the form of discovering the causes of given effects, as of predicting the effects of given causes. And, lastly, the treatment of an implication as a prediction is false, not only to the character of an implication, but also to the character of a prediction. Prediction, in the proper sense, is not hypothetical, but *categorical.*

[1] *Science*, N. S., Vol. XXXIV, No. 864, p. 78. Lovejoy's italics.

[2] *Introduction à l'étude de la Médicine Expérimentale*, p. 100.

You do not predict so long as you merely say, *If A*, then *B*. But you do predict when you say, Here is an *A*, and in virtue of the law, If *A*, then *B*, I infer that there will be a *B*. A law, in short, is not a prediction, but may make a prediction possible when applied to a particular case, or to put it differently, when a definite value is given for one of the correlated variables. And even then the correlation must be of the kind which involves temporal sequence or order.

Prediction, then, is by no means identical with deduction in general. It is a special case of deduction, possible only under special conditions. Moreover, it owes its prominence in the discussion of mechanism and vitalism to the fact that the relation of biology to physics and chemistry, or of organic to inorganic processes, is usually conceived, not merely as one of reduction, *i. e.*, of subsumption of particular under general, but as an *evolutionary* and, therefore, *temporal* sequence. In this context we get the problem of the origin of life, in the form whether from physico-chemical data alone a Laplacean calculator could have deduced, *i. e.*, predicted, the future appearance upon this earth of living beings. Or, more narrowly, could such a calculator, given an exhaustive knowledge of the particles and forces involved in the present position of my body in its environment, predict my next movement?[1]

Let me make the question even more precise by restricting it to the law of falling bodies, and giving it the form of an imaginary experiment. Compare the fall, through the same distance of space and under the same atmospheric conditions, of two bodies which differ only in that the one is lifeless, the other living, whilst they are alike in weight, shape, surface-texture, and any other factors which affect the rate of fall. Do you, as physicist, expect to find any difference in the rate at which the falling body in each case traverses the distance to the ground? If you find no difference in this respect, is the difference between being

[1] I agree whole-heartedly with the remarks of H. S. Jennings concerning predictability in his paper "Life and Matter," originally written for the fifth International Congress of Philosophy which, owing to the war, was never held. The paper will be found in the *Johns Hopkins University Circular*, N. S., 1914, No. 10. The reference is to p. 11.

lifeless and alive relevant to you, as a physicist, at all? It will not be part of the data which make the falling body a 'case' of your laws. Hence your laws are indifferent, or neutral, to that difference. They hold equally in either case. A living cat does not infringe or violate them. It does not fall slower or faster than a dead one. Yet there is a difference, as we all know, not in the rate of fall, but in the turnings by which the live cat lands on its feet and breaks the fall, escaping injury and death, whereas the impact of the dead cat involves contusions of the body and broken bones. The point of the argument, if there is anything in it, is simply this, that the physicist's data and laws abstract from certain differences, which consequently can neither be subsumed under his laws nor predicted from them alone.[1]

The conclusion which I would draw is that considerations of this sort support my previous contention. The biologist is interested in the study of living things, and hence finds it convenient to divide all things in nature into those which are living and those which are non-living.[2] The inclusion in his field of

[1] Mention of 'lifeless,' in the sense of 'dead,' bodies suggests a curious point, about the exact bearing of which I am neither clear myself, nor are, so far as I can find, my biological authorities. If we dichotomize bodies into living and non-living, organic and inorganic, where do we put the bodies which are dead in the sense of having lost their life, of having been alive and having died? Does an animal or a plant by dying pass straightway into the same class with bodies that are lifeless in the sense that neither life nor death can be predicated of them? In short, death seems to fit awkwardly into the tidy classification of organic and inorganic. The point has interesting ramifications. The biologist, in effect, ceases to be interested in an animal when it has died. It has ceased to 'behave' and to 'respond'; its organs have ceased to function; the phenomena of regulation, so important in the economy of life, no longer appear. Yet would a physiologist necessarily agree to draw the line there? I recall being shown as a student an elaborate and expensive apparatus in the Physiological Laboratory at Oxford, used for experiments upon eyes taken from dead frogs, the result being interpreted as bearing on the question whether black is a positive sensation. It seemed to me humorous, but mechanists may think the joke is on me.—If we look in another direction, we find in the economy of nature, that dead organisms play an immensely important part as food for organisms which are alive. Is not breathing almost the only exception to the rule that, above the level of plants, living things absorb inorganic substances only indirectly by inflicting death on other living things or living on things that have died? And to a large extent this is true even of plants.

[2] It is perhaps not an unnecessary reminder, at least to those of us who are unfamiliar with biology, but familiar with the history of philosophical terms, that when biologists use 'animate' as a synonym of living or organic, and 'inanimate'

study of some things, the exclusion from it of others, depend upon the presence or absence of the distinctive quality or character which we call 'life,' and which is empirically observable and recognizable. The physicist and the chemist are not interested in this character, and its presence or absence is irrelevant to them. Hence to them living bodies as much as lifeless bodies are physico-chemical systems. But the biologist's interest in life makes him interested also in the physico-chemical structures and processes without which life is not found in our world. Hence his point of view, in this respect, may be called synthetic or synoptic. In any case, if our universe is to be intellectually tidy and ordered, we need both points of view as cumulative and supplementary, viz., the point of view from which all bodies are physico-chemical systems, and the point of view from which some are living and others are not. There is, if we like to put it so, homogeneity and continuity from one point of view, heterogeneity and discontinuity from the other. But nothing is gained by ignoring one of these two sides.

5. But this, it may be said, is incompatible with the unity of science, which requires a determinism in homogeneous terms, such as can be supplied only by a mechanistic theory, *i. e.*, a theory by which all qualitative differences are reduced to, and explained in, terms of one kind only, and these ultimately the terms of physics. The admission of non-mechanistic concepts would destroy the determinism which is essential to science in general and to experimentation in particular.

The reply to this objection is, briefly, that my thesis not only does not involve the surrender of determinism, rightly interpreted, but meets all the logical requirements of the situation. The main points may be summarized as follows. (*a*) In the first place, we ought to distinguish between determinism and mechanism. The determinism which is identical with 'reason' in science, and without which any 'rational' explanation of natural phenomena is rightly said to be impossible, requires merely that every such phenomenon shall be 'determined by'

as a synonym of non-living or inorganic, they do not identify life with the presence of an *anima* or soul. They ring the changes on these terms simply to avoid monotony of style.

some other phenomenon, *i. e.*, correlated with it according to a law. A mechanistic theory is but a special form of this general principle of determinism, deriving its specific character partly from the introduction of a temporal factor (cause preceding effect), but more characteristically from the exclusive use of "geometrical, kinematical, mechanical, and physico-chemical terms," as stated in the 'Basis of Reference.' (*b*) Every law is a statement of an implication between universals, or, in mathematical terminology, of a functional correlation between variables. In the natural sciences which deal with existences in time and space, presented or presentable in the form of sense-data, all universals have cases, or instances, or applications; all variables have definite values. (*c*) But a unified theory of nature does not require the reduction of all universals to one kind, or the restriction of all variables to one type of values. We have laws correlating geometrical, physical, chemical phenomena among themselves in each group, as well as laws correlating phenomena of one group with those of another. There will then result a scheme, or an order, in which differences are preserved, and not 'reduced,' and in which a unified theory is achieved by the correlation of different types or groups or levels of phenomena which follow also among themselves each its own characteristic laws. (*d*) We shall thus expect to find what, indeed, we actually get in a large part of biological work, viz., a determinism in terms which are thoroughly teleological. Such a determinism will meet all the requirements of what H. S. Jennings pleads for under the names of "experimental determinism" or "radically experimental analysis." One might formulate the principle of determinism as 'every difference makes a difference.' This is nothing but functional correlation expressed in other words. For, when two factors are correlated, a change in one must involve a corresponding change in the other—'corresponding,' whether or no the variations on both sides are measurable and quantitatively determinable. In scientific observation the rule of method is, given an observed difference $A$ to search for some other observable difference $B$, such that $A$ is present where $B$ is present, absent when $B$ is absent, and varies

concomitantly with the variations of *B*. This is the elementary ABC of induction. Experimentation applies the same principle by artificially introducing, removing, or varying *B* so as to study its correlation with *A*. As H. S. Jennings says—in complete accord with the teachings of logicians on this point—the whole "organization" of experience by "discovery of correspondence in diversities" depends on this principle.[1] (*e*) The only point of refinement which this paper may, perhaps, claim to add to the above account is the insistence on what I have ventured to call the 'logical dominance' of the characteristic concepts and laws of biology on the ground that biology deals with structures and processes which have, indeed, their physico-chemical aspect, but cannot be reduced to exclusively physico-chemical terms without sacrificing precisely what makes them distinctive.

6. It remains to say a few words in defence of teleology and of the language of 'purpose,' by ridding the latter term of certain associations, the presence of which makes it unwelcome to scientists, and which are not required by the facts.

'Purpose' is objectionable, because it suggests the activity of a scheming or designing intelligence where no evidence of such is found. To talk of purposes in nature at once gives rise to the suspicion that their admission is to be exploited, as in the old Argument from Design, in the interests of an anthropomorphic deity; that intelligible law is to be replaced by an unintelligible will. But our plea here is that the terms can be freed from these implications and made scientifically useful. A transition can be made from 'efficient' to 'final' causes by the simple reminder that a nexus of cause and effect can *also* be taken as a nexus of means and end, whenever the effect has *value*. A natural law, in the sense explained in the last section, neither demands nor forbids the introduction of the concept of value, and is, therefore, entirely compatible with it, if the empirical facts should demand it. Some modern writers, indeed, would limit the application of the concept of value to whatever is desired. Things, they say,

[1] *Life and Matter*, p. 6 *et passim*. *Cf.* also the general position outlined there on pp. 10–11.

become valuable, or acquire value, by being desired. But, again, it is not in this sense that the term 'value' is to be employed here. When biological science speaks of conditions as 'beneficial' or 'harmful' for the organism; when it calls some chemical substances 'foods,' others 'waste-products'; when it speaks of the 'function' of an organ, or through the concept of 'organization' interprets the parts in the light of the whole; when, in dealing with 'growth,' 'behavior,' 'reproduction,' etc., it applies the concept of the maintenance or development of each characteristic type of living structure—its language is full of the kind of teleology which the term 'value,' or, if it be preferred, 'objective value,' is here intended to cover. Wherever, broadly speaking, the facts challenge us to say, not merely that *B* is the effect of *A*, but that *B* is the *reason why*, or *that for the sake of which*, A exists or occurs, there we have the *immanent purposiveness* of living things. To introduce here the analogy of human purposes, *i. e.*, to suppose the existence of these structures, the occurrence of these activities and functionings, to have been preceded by a desire for their existence or occurrence, or by a conscious design, plan, scheme, first thought out and then realized by the manipulation of means, would be misleading and irrelevant. No living thing begins by planning or desiring its own existence, its own form and function. No organism grows and lives according to a preconceived specification, building up its body like a builder working to a design, or like a tailor working to a pattern. 'No living thing' we said. And this covers not only plants and animals, but man. For, though we claim each to be 'master of his fate,' yet for all the planning that we do, for all the efforts that we make to guide ourselves and our world towards desired results, we tend vastly to overrate the part that desiring and scheming play in making us and our world what they are. Conscious choice, intelligent control, art, masks, but does not displace, the immanent and unconscious purposiveness which the lives of individuals and societies exhibit, and which is discernible even through their misfits and failures.

When we ask what character in natural objects, or in nature as a whole, exhibits this immanent purposiveness, this 'design,'

most clearly, the answer must surely be that it is *organization*—not merely in the static sense of a systematic structure of differentiated parts, but in the dynamic sense of this organization at work and functioning as a whole, responding through its organs (which are very literally 'instruments') to its environment, adapting that environment to itself and itself to it. A purposive structure, in Kant's famous phrase, is one in which parts and whole are reciprocally means and ends. The subordination of the parts to the whole lies precisely in that delicate mutual adjustment of the parts which, in respect of their functioning, we call *regulative*, and which in form as well as in function yields the characteristic individuality—one might almost say, using the word in the artistic sense, 'the effect'—of each living thing. Aristotle went straight to the heart of the matter when he compared this organization of each living thing to the order of a commonwealth. "And the animal organisms must be conceived after the similitude of a well-governed commonwealth. When order is once established in it, there is no more need of a separate monarch to preside over each several task. The individuals each play their assigned part as it is ordered, and one thing follows another in its accustomed order. So in animals there is the same orderliness—nature taking the place of custom and each part naturally doing its work as nature has composed them."[1] We have here clearly what in the language of modern biology is expressed as "the conception of the living thing as an autonomous unit in which every part is functionally related to every other and exists as the servant of the whole."[2]

And yet living beings are also constantly spoken of as 'living machines' and their organs as 'mechanisms' for doing this or that. Whence it is a short step to the demand for an exclusively 'mechanical' explanation. But a brief reflection on the concept of a machine will both account for the plausibility of this language and yet lend support to our view. It is surely a startling paradox that machines, which, as human tools for human ends, are more

[1] Henderson has done a real service in reminding us of this passage in his *Order of Nature*, p. 10.

[2] Henderson, *ibid.*, p. 21. 'Functionally related' in this context bears, I take it, both the mathematical sense given to it in section (4) and the teleological sense of this section. The two senses correspond to cause-effect, means-end respectively.

patently purposive than anything else in the world, being artefacts of human design, should have furnished by analogy the concepts which are used to shut out from the purview of science, not merely conscious design, but the immanent purposiveness exhibited in organization and regulation. Yet a machine is nothing if not organized, and frequently it is fitted with devices for regulating its own workings. It is, in fact, like an organism, a systematic structure of differentiated parts with differentiated functions. It was this uncanny likeness of machines to organisms which suggested Samuel Butler's brilliant fancy, in *Erewhon*, of a revolt of machines against man, their maker, the intelligence embodied in them making itself, as it were, independent. What is it that enables science to borrow from so purposeful and highly organized a thing as a machine the concepts for dealing with the non-purposive and inorganic? The answer would seem to be this. A machine, just because as a human tool it exists, not for its own sake, but for the sake of something other than itself, makes it easy to abstract from its purpose and to consider its organized structure as simply a system of particles and forces, undergoing transformations according to purely physical laws. A physicist, whom we will suppose ignorant of the purpose of a watch, might still be able to analyze it as a mechanism and to explain just why this intricate arrangement of toothed wheels and other devices, operated by a spring, must effect the rotation of two hands, each at its own uniform speed, but one twelve times as fast as the other. So far the mechanistic point of view, with its cause-effect principle, might carry him, nor need he know the end to which the whole arrangement is means. Now if it is easy to analyze a machine which has a purpose as if it had none, because its purpose is 'external' to its own existence, it is even easier to ignore the immanent purposiveness of an organism, which is not obviously an instrument for anything. Thus, by a similar abstraction from their teleological character, organism and machine can be analyzed, as if neither exhibited any characters except those of which we take account when we study them as physico-chemical systems.

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# DISCUSSION.

## The Kantian Ethics and its Critics.

In his recent book, *An Ethical Philosophy of Life*, a review of which appears in this number of the *Review*, Professor Adler offers a number of criticisms of the Kantian principles of ethics which do not seem to me to do full justice to that much praised and much abused theory of morality. They are not new, and they are not wholly without foundation, but, in my opinion, they reach the letter rather than the spirit of the teaching, and therefore tend to hide what is really fruitful in it and in harmony with modern idealistic ethics. Perhaps I may be able to show that this is so in what follows.

Professor Adler finds that both the foundations and some of the consequences of the Kantian doctrine are unsound. Kant, he declares, "has nowhere given us reason to believe that the acceptance of an absolute end is implied in the kind of constraints to which the generality of mankind submit. And again if such acceptance cannot be proved, then the universal moral equality of men based by him on the presence in all of the sense of duty disappears, and his lofty ethical structure breaks down at this point" (pp. 80f.). It seems to be forgotten here that Kant sought the supreme ethical principle in the moral *judgments* of commonsense, and, having found it, described its characteristics and inquired into its presuppositions: the categorical imperative legislates universally; morality is always disinterested; it is rooted in respect for man; it implies the intrinsic worth of the human individual and a kingdom of ends, or a spiritual society of rational beings in which truth and justice and mercy shall reign. Like Professor Adler he declares that "morality is either universal or nothing." As in Professor Adler's system the category of worth is fundamental. It is true, as the critic holds, that the savage is unaware of such a lofty imperative and its implications, but it is equally true that the savage gives no evidence of attributing worth to Professor Adler's unique personalities. That does not affect the *rationality* of the principle in either case. Kant sets up what he conceives to be a *rational* standard of life, which finally turns out to be an ideal of worth. Professor Adler holds that there are no sure signs that men have such motives as Kant demands or that they act in accordance with them, and that is exactly what Kant himself maintains: we can

never be sure that the agent's motives are pure, but the act cannot be called moral unless the motives *are* pure, unless the man is holy.

Professor Adler insists that Kant's ethical principle is a physical principle in disguise on the ground that if an act can be universalized, the performance of it is morally necessary. This is not Kant's meaning. He knows that a universal law of nature could indeed exist in accordance with his maxim, but he holds—and it is important to remember this,—that it would be impossible to *will* that such a principle *ought* to exist as a law of nature. (See *Grundlegung*, Rosenkranz edition, vol. viii, p. 50.) Besides, Professor Adler takes literally what is intended merely as an analogy. He regards as conclusive that Kant derived his ethical principle from his physics the fact that he speaks of the ethical order as a universal and necessary order like that of nature (p. 88). Now it is true that if Kant had meant by his ideal society of ends an order wholly like the physical order, determined by the law of causality, the moral order would not have a dignity superior to that of the physical order. But how can we identify an ideal society of free spirits who are conceived as acting in accordance with rational ethical principles or Ideas, with such an order? "It is permissible," says Kant, " to employ *the nature of the world of sense* as a *type* of an *intelligible nature*"; the law of nature serves as an analogue to the law of freedom or a supersensible system of things. (See *Kritik der praktischen Vernunft*, *ib.*, pp. 156ff., 193.) "There is a difference between the laws of a nature to which *the will is subject*, and of a *nature which is subject to a will* (so far as its relation to its free actions is concerned); and this difference is based on this: that in the former case the objects must be the causes of the ideas, which determine the will, while in the latter the will is to be the cause of the objects, so that the causality of this will has its ground solely in a pure faculty of reason, which may, therefore also be called a pure practical reason" (*ib.*, p. 159). Accordingly in maintaining that the method of ethics must be the opposite of that of physics Professor Adler has no ground of quarrel with the real Kant. Kant does not base his ethics on physics.

Professor Adler holds that ethics cannot take a step without an ideal of the whole, and he thinks that Kant "aimed to vindicate the certainty of the physical knowledge of a part as being compatible with total ignorance of the whole" (p. 94). This is true, but it is true in a sense which does not justify our author's criticism of Kant. Kant's object was to understand the presuppositions of the science of physics: how is a universal and necessary knowledge of nature possible,

the kind we have in the Newtonian physics? His conclusion is that we have here only a surface-knowledge, a knowledge that deals with perceptions, a knowledge of phenomena, and that we could not even have certain knowledge of *phenomena* if it were not for the forms of the mind: we know the forms of the phenomenal world only because we impose them upon the world of sense. The Newtonian physics is not real knowledge, a knowledge of the essence of things. But we do have real knowledge in ethics; the moral law, which is a law of reason, guarantees the reality of a spiritual or noumenal order. It is true, as Professor Adler declares, that Kant opposed pure rationalism when he expelled the older metaphysics. But it is true only in part: he expelled the old *apriori* metaphysics which tried to penetrate to the heart of things through the phenomenal world and applied the scientific categories to things-in-themselves. But he was no more an agnostic than was Descartes; he demolished the old-fashioned proofs for the existence of God, freedom, and immortality to make room for faith in the same old realities. And he tried to give us more than a faith; on the basis of the moral law, which, in the *Critique of Practical Reason*, he called a *factum* of reason, an unexplainable truth, he attempted to demonstrate the reality of the spiritual world together with everything that he thought necessarily went with it. He was too rationalistic to seek refuge in "intellectual intuitions," in mysticism and *Schwärmerei*, or in pragmatism; the categorical imperative is for him a deliverance of reason of such convincing certainty as to form the basis of a new philosophical structure. His new arguments for the old truths are weak, but that is not the question. The fact remains that Professor Adler too reaches the spiritual world by way of ethical principles; he too rears a metaphysical system upon the moral law; for him too there is something in morality that stands firm in the breakdown of worlds.

In declaring, as he does later on, that Kant substitutes a logical necessity for a physical necessity, Professor Adler seems to me to destroy his original argument. If he is right, then Kant's ethical principle is not "a physical principle in disguise," but a logical principle in disguise. In truth, it is neither the one nor the other. It is an ethical principle, sometimes supported by a logical principle, which in its application to concrete acts quite properly appeals to logic. A rational will cannot will that what is wrong for others should be right for itself; in certain cases, however, a motive if made universal (for example, the breaking of a promise from selfishness) would, in addition, defeat itself (bring about universal distrust in promises) and

involve the agent in a logical contradiction. Kant says on this point: "We must be able to will that a maxim of our conduct become a universal law: that is the canon of moral judgment in general. Some acts are so constituted that their maxim cannot even be *conceived* as a universal law of nature without contradiction; far from our being able to *will* that it *shall* become such a law." (*Grundlegung, ib.*, p. 50.)

In this connection another very important fact must be borne in mind: Kant regards as one of the implications of his imperative the notion of the worth of the human personality: Act so as to treat humanity, whether in thine own person or in the person of any one else, always at the same time as an end, never merely as a means. More than that: he regards this respect for humanity as the rational basis upon which the imperative rests. It is only when we forget this and exaggerate the part which the notion of selfconsistency plays in Kant that we can say with Professor Adler that "the notion of end is incompatible with selfconsistency as the paramount principle in ethics"; that "if we take as our principle respect for the abstract notion of universality and necessity based on universality, we must abandon the idea of man as end in himself"; that "necessity to Kant means unity of a thing with itself"; and that "rational selfpreservation therefore is the only character that can be predicated of any of the entities composing the society of ends: they are selfsufficing and moreover intrinsically unrelated to each other" (p. 88). The truth is that respect for humanity, and not logical consistency, forms the backbone of the categorical imperative, and that Kant never lost sight of the ideal of a society of ends, of a society of rational beings, every one of whom must act in such a way as to make that society possible, that is, from disinterested, universal motives. There is no incompatibility between the notion of end and selfconsistency in Kant for the simple reason that selfconsistency is not the paramount principle in his ethics.

Professor Adler offers the further objection that Kant proclaims man as end *per se*, that this promises a philosophical basis for an ethical world-view, but that the promise is not kept because he starts from absolute obligation and attempts to deduce from an empty formula a worthwhile object (p. 100). This criticism forgets that Kant tries to deduce the categorical imperative itself from the notion of the will of a rational being and finds that if there is to be such a categorical imperative, it must be founded on the principle that rational nature exists as an end *per se*, that man as a rational being has absolute worth, or, as Professor Adler would say, is a worthwhile object.

From this objective principle, Kant asserts, all the laws of the will are to be derived; which means that the imperatives are grounded in the notion of worth. (See *Grundlegung*, p. 55.) Professor Adler also declares that we cannot establish the conception of worth "unless we have some ideal of the whole in which and in relation to which the incomprehensible worthwhileness of a human being can be made good" (p. 103). "It is as an ethical unit, as a member of the infinite manifold that man has worth." It is in the conception of a unity in which "the unique differences of each shall be such as to render possible the correlative differences of all the rest" that we get our hand firmly on the notion of the right, and by means of it we discover the object which Kant failed to find, the object to which worth is attached" (p. 117). Now, it does not seem to me that Kant ever loses sight of the whole; it is implied in every formula of the moral law offered by him. He has the ideal of a society (*Reich*) of ends, a union of different rational beings or members, who will universally, disinterestedly, morally. "Morality therefore consists in the relation of all conduct to the legislation by which alone a kingdom of ends is possible." Kant's thought is that in order to act rightly I must conceive my fellows as equal members of a rational order, act as a legislating member of a society of ends, treat every man as an end *per se*. Professor Adler's teaching is that "I must help others in order to save myself; I must look upon the other as an ethical unit or moral being in order to become a moral being myself" (p. 121). Both thinkers conceive the individual as a member (Kant uses the term *Glied*) of a whole; the whole implies members, members imply a whole; we cannot attribute worth to the member without attributing worth to the whole, and *vice versa*. It is true that Professor Adler advances beyond the notion of a human social order and seeks to anchor morality in the infinite spiritual universe, but it is the conception of human worth that leads to the ideal of an infinite spiritual universe in his system, and not *vice versa*. It is because he sets a supreme value upon unique personalities that he demands a spiritual kingdom in which what is best in them shall be preserved; his metaphysics grows out of his ethics. In a certain sense it may be said that Kant's metaphysics also springs from his ethics: God, freedom, and immortality are postulates of the moral law.

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# REVIEWS OF BOOKS.

*An Ethical Philosophy of Life:* Presented in its Main Outlines. By Felix Adler. New York, D. Appleton and Company, 1918.—pp. viii, 380.

This is the mature work of a man who has labored honestly and unceasingly to sound the depths of the moral life, who has faithfully served the nation as an ethical teacher, who has endeavored to make his faith a living practice and has succeeded, to some extent, in translating it into the body of our social existence. We have here not a closet-philosopher who constructs Utopias "under the shelter of a wall" nor a scorner of theory who follows the fads of the day, but a thinker who keeps his eye steadily fixed upon the world as it is and strives to discover what a "worth-producing" rational human being must will it to be. As Professor Adler himself says, the book "records a philosophy of life growing out of the experience of a lifetime." What it offers "is a system of thought and points of view as to conduct, as they have jointly grown out of personal experience." He does not presume to lay down the law for anyone; he finds that he can set forth the better standards which in the course of trial and error he has come to recognize. The volume gives us an insight into the evolution of a practical idealist in whom the deeply rooted ethical strain is supported always by a clear intelligence which seeks a rational justification of the faith that is in him, prevents him from ignoring the hard facts of life, and saves him from indulging in shallow and sentimental theorizing. Kant has had a telling influence upon him; in spite of his antagonism to the German whose disciple he remained for many years, his conception is essentially Kantian:[1] respect and reverence are writ large in his vocabulary; indeed, maudlin sentimentality is as distasteful to him as were the eighteenth century "volunteers of duty" to his former master. The holiness conception of Kant, Professor Adler tells us, formed the starting-point of his own system; he was attracted to him because he affirmed it, and he "broke with him because he does not make good his affirmation." And it was because of his never-changing faith in this ideal that he rejected Marxian socialism, with

[1] I refer the reader to the discussion in another part of the number in which I have endeavored to show that much of Professor Adler's opposition to Kant is based upon what seems to me to be a failure to do justice to that philosopher's basal thought.

which he had dallied for a while in his youth: "if there be no such thing as morality, or if morality be but an epiphenomenon of economic conditions, what warrant have the hungry or the disadvantaged for complaining?" (p. 46.) "I became convinced that the ethical principle must run like a golden thread through the whole of a man's life, in a word, that social reform unless inspired by the spiritual view of it, that is, unless it is made tributary to the spiritual, the total end of life, is not social reform in any true sense at all" (p. 56). It is due to the stern regard of their leader for reason and right, to his downright sanity, that the ethical societies which Professor Adler founded avoided the pitfalls into which they might easily have disappeared; that they never took the shadow for the substance is in large measure owing to his wise guidance, as is also the fact that the social movements which have quietly grown up in these societies have become established institutions throughout the land.

The fundamental fact in ethics for Professor Adler is the notion of worth. The quality of worth belongs to a particular kind of energy. "It is unlike the physical forces; it is not a transformed mode of mechanical energy. It is *sui generis*, underivative, unique; it is synonymous with the highest freedom; it is power raised to the N'th degree. It is ethical energy. To release it in oneself is to achieve unbounded expansion. Morality, as commonly understood, is a system of rules, chiefly repressive. Ethical energy, on the contrary, is determined by the very opposite tendency; a tendency, it is true, never more than tentatively effectuated under finite conditions. And because the energy is unique, it points toward a unique, irreducible, hence substantive entity in man, from which it springs. This entity is itself incognizable, yet the effect it produces requires that it be postulated. The category of substance, which is almost disappearing from science, is to be reinstalled in ethics. Ethics cannot dispense with it" (pp. 92f.).

But ethics cannot take a step without an ideal of the whole. "No detached thing has worth. No part of an incomplete system has worth." "We must possess an ideal plan of the whole if we are to be certain of our rightness in any particular part of conduct." "There is not a single partial rule of conduct, neither 'Thou shalt not kill' nor 'Thou shalt not lie,' nor any other that, taken by itself, is of itself ethically right. It may be right, it may be wrong. It takes its ethical quality from the plan of conduct as a whole, and without reference to the whole it is devoid of rightness." (See pages 98 and 99.) "Hence the conclusion that there is no possibility of establishing

the conception of worth unless we have some ideal of the whole in which and in relation to which the incomparable worthwhileness of a human being can be made good" (p. 103).

The language of the last quotation is ambiguous; it is open to the interpretation that the intrinsic worth of man cannot be established except by reference to a certain ideal of the whole, and that morality would have no foundation if there were no spiritual universe. All that Professor Adler shows, however, and perhaps means, is that a social whole is necessary in order that "worthwhile" personalities may be developed; and that our judgment of man's intrinsic worth demands such a universe. The great datum of ethics, he says, is that man is an end *per se*. Ethical theory must give an account of this. As possessing worth on his own account man is an ethical unit. Only as a member of the infinite spiritual universe does he possess the twofold attributes implied in worth—inviolability with respect to outsiders and indefeasible intrinsic preciousness (p. 125). The universe is the necessary postulate required if the idea of right is to have validity; the ethical manifold, the spiritual universe exists in so far as there is right (p. 126). The thought here seems to be that inviolability and intrinsic preciousness and the idea of right presuppose the notion and even the existence of a spiritual universe, an infinite system of interdependence in which men as ethical units have their place. Here we are reminded of Kant,—of his postulates of pure practical reason: the existence of God and the immortality of the soul;—he is a theist while in Professor Adler's system "the God-idea is replaced by that of a universe of spiritual beings interacting in infinite harmony" (p. 126). His philosophy is rooted in the faith of the worthwhileness of man; it is because he conceives the individual as precious that he demands an infinite whole in which that preciousness shall not be lost. Our belief in the good calls for a world in which that good shall be preserved. In the final, beautiful chapter of the book, "The Last Outlook on Life," we find this idea nobly expressed:

"The world as we know it is itself the veil, the screen, that shuts out the interplay, the weavings and the interweavings of the spiritual universe. But at least at one point, in the ethical experience of man, is the screen translucent. The plan of the spiritual relation is there traced in outline. It is this plan that conveys the certainty as to what verily exists beyond, within, beneath.

"As to my empirical self, I let go my hold on it. I see it perish with the same indifference which the materialist asserts, for whom

man is but a compound of physical matter and physical force. It is the real self, of which the empirical was the substratum, upon which I tighten my hold. I do not assert immortality, since immortality, like creation, is a bridge between the phenomenal and spiritual levels. Creation is the bridge at the beginning; immortality the bridge at the end. Were I able to build the bridge, I should know. I do not affirm immortality. I affirm the real and irreducible existence of the essential self. Or rather, as my last act, I affirm that the ideal of perfection which my mind inevitably conceives has its counterpart in the ultimate reality of things, is the truest reading of that reality whereof man is capable. I turn away from the thought of the self, even the essential self, as if that could be my chief concern, toward the vaster infinite whole in which the self is integrally preserved. I affirm that there verily is an eternal divine life, a best beyond the best I can think or imagine, in which all that is best in me, and best in those who are dear to me, is contained and continued. In this sense *I bless the universe. And to be able to bless the universe in one's last moments is the supreme prize which man can wrest from life's struggles, life's experience*" (pp. 359–60).

The worthwhileness of a human being can be made good only by the assurance that all that is best in him will somehow survive.

> Es kann die Spur von seinen Erdentagen
> Nicht in Aeonen untergehen.

There is another phase in our author's teaching that deserves attention. We have seen that he attributes worth to the personality, the unique, irreducible, substantive entity in man. In developing his theory, however, he introduces uniqueness of another kind, which he thinks differentiates his system from other idealistic philosophies. He expands his thought in the following formulas: "Act as a member of the ethical manifold (the infinite spiritual universe). Act so as to achieve uniqueness (complete individualization—the most completely individualized act is the most ethical). Act so as to elicit in another the distinctive, unique quality characteristic of him as a fellow-member of the infinite whole" (p. 117). Now "the actual unique quality in myself is incognizable, and only appears, so far as it does appear, in the effect produced by myself upon my fellows. Hence, to advance towards uniqueness I must project dynamically my most distinctive energy upon my fellow-members" (p. 118). "I must seek to elicit the consciousness of the uniqueness and the interrelation in others. I must help others in order to save myself; I must look upon the other as an ethical unit or moral being in order to become a moral being

myself. And wherever I find consciousness of relation, of connectedness, even incipient, I project myself upon that consciousness, with a view to awaking in it the consciousness of universal connectedness'' (p. 121).

The ideal is a society of unique personalities in which "the unique difference of each shall be such as to render possible the correlated unique differences of all the rest" (p. 116). Each infinitesimal member is indispensable, has worth; "a duplicate would be superfluous." Professor Adler's language often has an extremely individualistic ring: I must help others in order to save myself in the sense that I cannot achieve uniqueness without "injecting streams of dynamic energy" into my fellow-beings. One sometimes gets the impression that the universal order is a mere means of bringing out one's individual uniqueness, and that the chief end of man is to be different from everybody else. This, however, is not the real meaning of the theory. Since uniqueness has absolute ethical worth I must achieve it in myself; but I must also seek to elicit it in others, I must work to bring about an interrelated whole of unique beings, I must arouse the consciousness of such an ideal in others. "A virtuous act is one in which the ends of self and of the other are respected and promoted jointly" (p. 214). The difference in method which distinguishes his system from others, Professor Adler tells us, consists in the joint pursuit of the two ends, that of the other and that of the self (p. 220; see also pp. 148, 190, 222).

The system is no more *egoistic* than is Aristotle's, Kant's, or Green's. It is, however, *individualistic* in the sense that the object of highest worth is the unique individual. "The ethical quality is that quality in which a man is intrinsically unique" (p. 142). "The self is precious on its own account" (p. 214). We must learn to prize distinctive difference above uniformity or sameness. "I do not of course deny that there are certain uniformities, chiefly negative, in moral conduct, but I have come to think that the quality of moral acts consists in the points in which they differ rather than those in which they agree. The ideally ethical act, to my mind, is the most completely individualized act" (p. 24). The doctrine of uniqueness has been taught before, in various forms,—by the Greek Sophists, by the Romanticists, by Humboldt, Schleiermacher, Mill, Emerson, and others,—and it needs to be emphasized, particularly, perhaps, in a democracy, as a protest against the tendency to make everybody like everybody else. We are led to ask, however, whether mere difference has any more worth than mere sameness. There is a uniqueness, to be sure, which is indefeasible: each individual is a person, a self, an ego, a

ἅπαξ λεγόμενον, something that has never been before and will never be again. But not every difference in thought, feeling, and action has worth as such; we need a criterion by which to appraise uniqueness. Professor Adler himself says: "Difference in the ethical meaning is not to be confounded with mere idiosyncrasy, or originality, not to say eccentricity. It is the kind of difference which elicits correlated difference in all spiritual associates" (p. 142, note). Although this will not serve as a satisfactory principle of measurement, it points to an *ethical* standard of some kind. We can accept the statement: "That every man is the equal of his fellows means that he has the same right as each of the others to become unlike the others, to acquire a distinct personality, to contribute his one peculiar ray to the white light of the spiritual life" (p. 143); but we should like to know how to tell that one peculiar ray from others and how to identify the white light. It is true, the individual, encompassed on every side by uniform public opinion, "hardly ventures to hold his own judgment against the judgments of the majority"; and "the impulses of the mass tend also to threaten his independence of action." There is, however, no special merit or value in a judgment or action simply because it is a man's own or because it is different from that of others. We are not interested in having an infinite variety of judgments pronounced or acts performed, except in so far as they contribute to truth and goodness; and we need principles of selection to help us sift the true from the false and the good from the evil, to distinguish mere "otherwiseness" and freakishness in thought and conduct from uniqueness that has ethical worth. We need a criterion that will enable us to tell "the kind of difference which elicits correlated difference in all spiritual associates" from the kind that does not, and we need to know when such difference is correlated.

Professor Adler finds the chief defect in ethics up to the present time in the lack of a definite description of the spiritual nature, and endeavors to supply it: "The spiritual nature is the unique nature conceived as interrelated with an infinity of natures unique like itself. The spiritual nature in another is the fair quality distinctive of the other raised toward the Nth degree" (p. 231). This formula is not more definite than that of other idealistic moralists; the ideal of the *unique* self needs to be defined, no less than the ideal of the *true* self. But nearly all ethical thinkers endeavor to furnish a fuller description of the ideal life than is indicated in their formulas. Besides, the formulas are not so empty as they seem because the moral philosophers tacitly read into them the basal ethical values which the race

has won in its long experience: the spiritual life is a life of truth and justice and mercy; the true self is the self that sets its mind "on the things that are above, not on the things that are upon the earth." There is always more behind the formulas than in them, and they must be interpreted in the light of what is taken for granted. Professor Adler is no exception to the rule. We get a deeper insight into his real meaning as we go along, in the practical application of his philosophic theory, which comprises the larger portion of his book (pp. 147–372). And here we discover that the *unique* self does not differ much from the *true* self of his predecessors. Uniqueness finds its limitation in the universal; indeed, the only kind of uniqueness that is worthwhile is moral uniqueness. In his opposition to a levelling process that would blot out all originality and pound all men into a common pulp, and in his impatience with a civilization that turns out human beings like standardized factory-wares, *billig und schlecht*, to use Schopenhauer's phrase, Professor Adler overemphasizes the element of uniqueness. But it is, after all, always a moral uniqueness that he has in mind: "we can love only that which is lovable," the holiness and beauty concealed within our fellow-beings; "we must acquire the faculty of second sight, of seeing the lovable self as the true self" (p. 223). "The unique personality, which is the real life in me, I cannot gain, nor even approximate to, unless I search and go on searching for the spiritual *numen* in others" (p. 224). "For it is only face to face with the god enthroned in the innermost shrine of the other that the god hidden in me will consent to appear" (p. 225). Not every part of man is worthwhile. "Unless, then, there be some master end in everyone's life, one paramount to all others, to which all others are subordinate (the subordination and the renunciation being themselves means of spiritualizing one's nature) there is no point to the notion of service. That master end I have defined as the attainment of the conviction of one's infinite interrelatedness, the consciousness of oneself as a member of the spiritual universe . . . " (p. 228). "The spiritual society of which the image is to be imprinted on human society is a society of indefeasible ethical personalities" (p. 247). "I must have the courage and the truthfulness to look upon neighbor, friend, wife, husband, son, daughter *sub specie aeternitatis*, that is, as primarily spiritual beings" (p. 228). I must help them to realize the better part of their nature, to arouse in them the consciousness of the true self, the consciousness of the universal good, the consciousness of the ideal society of ethical personalities. This is the teaching of all idealistic ethics.

Professor Adler's unique individual is further limited as a member of the family, the school, the vocation, the state, the international society, and the ideal religious Society. "The sub-organisms are embraced within the superior organisms." But they are not swallowed up in them: "there are rights of the individual, rights of the family, rights of the vocational group, which the State does not create but is bound to acknowledge and which its power cannot properly infringe" (p. 306). Each sphere has its particular uniqueness, which must be respected. The importance of the vocations (among which motherhood will be recognized) is stressed: "the public good will be consummated when the conditions are furnished necessary and favorable to the development of personality in each of the constituent groups of the social body" (p. 314); indeed, the vocational group is made the basis of political representation. "Vocational representation, in my view of it, is the appropriate expression of the organic idea of the state. The state is the soul. The soul must have a body. Vocational representation is that body." The significance of this view can be fully understood only when we remember that Professor Adler conceives all the social institutions as "successive phases through which the individual shall advance towards the acquisition of an ethical personality" (p. 261). His ideal is the realization and preservation of distinctiveness in the individuals and in the groups, the state included. "The relative independence of the social sub-organism," he says, "is the salient point. This kind of independence is based on the general conception underlying my entire ethical philosophy, that the ethical quality resides in uniqueness in distinctiveness, that ethical progress consists in driving towards individualization in the sense of personalization. This is opposed to those philosophies of life that see the ethical quality in uniformity. Socialism is on the side of uniformity" (p. 274).

What I have been trying to show is that in spite of Professor Adler's occasional exaggeration of the element of uniqueness, he subjects it to limitations: to be ethical, uniqueness must submit to law. Not every kind of difference is moral. The worth of individual uniqueness is determined, among other things, by its fitness to make group-uniqueness possible; and the uniqueness of each sub-group, in turn, is judged by its effect upon that of the successive superior groups. The ethical individual wills to be a member of an organized spiritual world. He wills to be a social personality, which means to be a true individual. He wills the concrete universal. We cannot tear the notions of uniformity and diversity, sameness and difference, society

and the individual apart, as Professor Adler's own system abundantly proves. And if I understand the spirit of his philosophy aright, he conceives only that uniqueness as worthwhile, as worthy to be contained and continued in an eternal divine life, which is the expression of what is *best* in man, the will to realize the eternal, universal, values. This is the view of the ethical idealists from Plato to Bosanquet, of whom Professor Adler is the spiritual brother.

*An Ethical Philosophy of Life* is a noble contribution to the field of ethics, noble in substance and noble in its literary form. The practical part of the work, which does not follow the beaten track, is of unusual interest and value, particularly the chapters dealing with the Vocations, the State, and the National Character; the brief discussion of educational questions (pp. 291–304) is admirable in its thoughtfulness and suggestiveness. The conception of the university as a group of vocational schools may be accepted if we conceive the vocations ethically, as Professor Adler does, if we regard as its aim "to furnish leaders for all the various groups who will undertake the great business of truly organizing democracy," and if we include in this latter task leadership in research. The college Professor Adler looks upon as "a legacy which has come to us from a type of society unlike our own," as "an institution designed for the education of gentlemen," and he thinks it will disappear. We must admit that there is some ground for this pessimistic description, but does it not suggest the reform rather than the elimination of the college? There would seem to be a particular need of the college, as the basis for vocational instruction, in our author's ideal democratic society, but it would have to be something more than a mere pathway to materialistic success or a resort for the acquisition of a superficial culture.

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*The Order of Nature: An Essay.* By LAWRENCE J. HENDERSON. Cambridge, Harvard University Press; London, Oxford University Press, 1917.—pp. v, 234.

This book is a continuation and further development of a line of thought initiated by the author in a work published in 1913 under the suggestive title *The Fitness of the Environment.* The relation of the volume before us to the earlier book may perhaps be best indicated by quoting some sentences from the introductory chapter. "In a recent book," he writes, "I have tried to recall attention to the many interesting peculiarities of the environment and to state the facts concern-

ing the fitness of the inorganic world for life. . . . The primary constituents of the environment, water and carbonic acid, the very substances which are placed upon a planet's surface by the blind forces of cosmic evolution, serve with maximum efficiency to make stable, durable, and complex, both the living thing itself and the world around it. . . . Nothing else could replace them in such respects, for their utility depends upon a *coincidence* of many peculiar and unequaled properties which they alone possess. . . . In truth fitness of the environment is quite as constant a component of a particular case of biological fitness as is fitness of the organism, and fitness is quite as constantly manifest in all the properties of water and carbonic acid as in all the characteristics of living things. Such a conclusion, however, only touches the surface of the problem. . . . Just because life must exist in the universe, just because the living thing must be made of matter in space and actuated by energy in time, it is conditioned. In so far as this is a physical and chemical world, life must manifest itself through more or less complicated, more or less durable physico-chemical systems. Accordingly it is possible to assert and it will presently be demonstrated that the primary constituents of the environment are the fittest for those general characteristics of the organism which are imposed upon the organism by the general characteristics of the world itself; by the very nature of matter and energy, space and time. . . . The facts upon which this conclusion rests prove, I believe, that a hitherto unrecognized order exists among the properties of matter. Proceeding from the results of this earlier inquiry, I have, in the following pages, endeavored in a more rigorous manner to discuss the importance of the three elements [hydrogen, oxygen, and carbon] for the process of cosmic evolution and by eliminating all biological theories and principles to rest the conclusions exclusively upon the secure foundation of abstract physical science." But the author has also, as he says, "after much hesitation, ventured to sketch the development of thought upon the problem of teleology, and at length to confront the scientific conclusions with the results of philosophical thought, in order finally to attempt a reconciliation." But "the scientific conclusions are independent of the philosophical problem of teleology. . . . And "the present essay professes to demonstrate nothing but the existence of a new order among the properties of matter, and only to examine the teleological character of this order."

It would be difficult, even if I felt myself competent, to give a summary of the author's closely reasoned argument. I shall try to

indicate merely the character of his main results, and shall add a few comments of my own in regard to certain views which he has expressed.

What Professor Henderson has done is to call attention to the fact that not only the biological sciences, but chemistry and physics as well, recognize the existence of an order which is not mechanical but forms the 'organization' or 'system' or 'pattern' within *which mechanical causes have meaning or relevancy*. Such a view is teleological, not only in the sense that there is a complementary connection between the different elements which compose the 'system,' but also in the sense that the earlier stages of the evolutionary process through which the 'system' passes must be regarded as a preparation for the later. That the concept of 'organization' is operative as a working principle within the biological sciences is too evident to admit of any debate. But that the sciences of inorganic nature also base themselves on the assumption of order and individuality in the systems of phenomena with which they deal is not so immediately apparent, and is from the point of view of the physical sciences a comparatively new doctrine. Yet it follows directly from the position maintained by philosophy since the time of Aristotle that what is real is individual. It is of great importance, however, to have this stated from the scientific point of view and supported by arguments drawn from the procedure and theories of representatives of the physical sciences. One result of this argument is to show, as Professor Henderson says, that "the problem of the teleological form and behavior of the organism merges in the larger question of the order of nature" (p. 116).

But Professor Henderson does not confine himself merely to calling attention to the reality of the teleological appearance of the world as a whole. This is a fact that it is no longer permissible to doubt. The question, however, remains "how the production of this order is to be scientifically explained. What is the mechanistic origin of the present order of nature?" (p. 119). The complete answer to this problem would involve an exhaustive statement of all the details of the evolutionary process, something which is of course impossible. Nor is it possible, according to the author, to explain the evolution of the existing order of nature solely in terms of general laws. These laws do not serve to account for the diversity which things assume in the process of evolution. "The general laws of science do not sufficiently account for the evolution of the globe. The Phase Rule, the second law of thermodynamics, the principles of statistical mechanics and the fact of the stability of dynamic equilibrium are all, like the laws of con-

servation and of gravitation, conditions of the process. But the process itself is the evolution of the original matter and the original energy of the globe. It is the properties of this matter and of this energy which chiefly bring to pass the manifold events in the history of the earth, or at least which make it possible that they should be manifold" (pp. 144–145). The problem of the coöperation of the laws of nature still appears to the author a genuine problem, but he regards it as less promising than that regarding the properties of matter and energy (pp. 148–149). His own specific contribution to the explanation of the teleological appearance of the existing order of nature confines itself to an examination of the properties and activities of the three chemical elements, hydrogen, oxygen, and carbon, which seem to him the main causes which explain the evolution of the diversity and stability among the systems which constitute the order of nature. "How is it that, on account of the peculiarities of these three elements, there are so many degrees of freedom left open in the evolutionary process" (p. 154)? This is the question which was treated in the author's earlier work, and the analysis of which, as he says, he has here endeavored to simplify and generalize.

Without attempting to follow the suggestive and instructive analysis of this problem, I wish to call attention to one fact which the author emphasizes, viz., that the scientific explanation of the existing order of nature which he furnishes rests upon an original and permanent order of relations between the three elements. The present teleological order is explained scientifically by showing it as the result of an earlier order among the elements which is capable of definite expression, but it is not derived from any chance play of unrelated mechanical causes. "We may therefore conclude that there is here revealed an order or pattern in the properties of the elements. This order is, so to speak, hidden, when one considers the properties of matter abstractly and statically, for it is recognizable and intelligible *only* through its effects. It becomes evident only when time is taken into consideration. It has a dynamical significance, and relates to evolution" (pp. 184–185). "It cannot be that the nature of this relationship is, like organic adaptions, mechanically conditioned. For relationships are mechanically conditioned in a significant manner only when there is opportunity for modification through interaction. But here the things related are supposed to be changeless in time, or, in short, absolute properties of the universe. According to the theory of probabilities this connection between the properties of matter and the process of evolution cannot be due to mere contingency. There-

fore, since the physico-chemical functional relationship is not in question, there must be admitted a functional relationship of another kind, somewhat like that known in physiology. This functional relationship can only be described as teleological" (p. 211).

The form of argument leading up to these conclusions is at first sight different from that which speculative philosophy employs in its argument for the systematic and individual character of reality. But on reflection one sees that the methods are not diverse, but rather complementary applications of the same logical procedure of bringing to light the implicit assumptions in experience, of viewing it speculatively,—*i. e.*, seeing it in the completeness of its concrete detail and movement. The divergence in the order of facts to which appeal is made is more apparent than fundamental, and the two lines of argument are only different phrasings of the one philosophical interpretation. One cannot, I think, read a book like *The Order of Nature* without realizing that philosophy and science are not opposed, or even separable methods of inquiry, and that the distinctions between them after all are only provisional.

Though these conclusions are suggested by Professor Henderson's book, I am not sure that he would accept them. One finds cropping out here and there in his pages a strange hesitation in regard to philosophical results, and also the old assumption that mechanism affords a kind of intelligibility which is more complete than that of any other mode of explanation. It seems that he has not himself realized the transforming effect for natural science of the concepts which he has helped to establish. If the new concepts are recognized as legitimate, explanation in terms of mechanism can no longer be regarded as a complete and final answer even to the problems raised by the physical sciences. Mechanism is indeed not denied or abrogated, but as interpreted by this philosophy it becomes a means or instrument which contributes to the intelligibility of reality in terms of individual systems.

Scientists have frequently regarded it as a duty to lecture philosophers upon their predilection for *a priori* deductions and their neglect of facts. Doubtless these warnings have not been entirely unnecessary, and on the whole they have been accepted in good part by those to whom they were addressed. But are not they in their turn in need of the service of philosophy to warn them against the *a priori* domination of mechanistic conceptions and to help them appreciate other forms of intelligibility? It seems to me one of the most hopeful signs of the times that scientific thinkers are themselves now actively engaged in

applying the results of philosophical reflection in an attempt to recognize the more concrete categories which are demanded by the actual facts of experience. In this connection Professor Henderson's book is one of great philosophical importance, and by the fresh light which it throws on many questions will also be found enlightening by students of philosophy. No one can read it without feeling himself the author's debtor.

Just because of my great appreciation of the book, however, I feel that I should specify my reasons for thinking that Professor Henderson has not himself quite realized the significance of the new standpoint which his analysis has reached. It is especially from his remarks regarding the relation of mind and body, in the chapter entitled "Biology" that I draw this conclusion. Although he recognizes explicitly the validity of the concept of 'organization,' the discussion of the relation of mind and body seems still to be carried on upon the old Cartesian assumptions; we still have left the 'tormenting psycho-physical paradox' without any suggestion of a possible principle of solution, but with the hope expressed "that in time this difficulty will somehow be circumvented" (p. 99). Again, on page 97, as a comment on a quotation from Hobhouse: "Consciousness does indeed inform us that the organism is more than a physical structure; no doubt it is a psycho-physical whole. Accordingly some of its actions do not, strictly speaking, conform to mechanical laws. An instance of this is a choice or any other psychical activity. But even so, it involves a further assumption to assert that the *physical* activities of the organism even when parts of psychophysical activities can ever be explained as not in conformity with mechanical laws." The last sentence, which might be parallelled by others from this chapter, exhibits the author as still holding fast to dualism, and to the notion of the organism as having a psychical part *plus* a physical part, which latter, *as purely physical*, would seem to demand a mechanical explanation. The true notion of organism, as expressed by Hobhouse in the quotation on this page,—that of "a system whose mode of action as a whole departs from that of mechanism in virtue of its specific quality"—is not grasped and applied, and consequently the old antinomies of the dualistic position are left standing. Professor Henderson appears still to hold fast to Kant's dictum, that where the possibility of a mechanical explanation ceases there ceases also the ground of intelligibility of phenomena. Perhaps one may set this down as an 'idol of the cave,' arising from his professional preoccupation with physics and chemistry. It is interesting to contrast this postulate

with that of a thinker whose primary point of departure is furnished by the facts of the organic world. Dr. Haldane insists that biology, while recognizing the place and service of mechanism as an instrument, can make progress only by going beyond the physical and chemical conceptions of matter, energy, structure, cause, etc. It has been common to assume that it is only by employing mechanical conceptions that it is possible to deal scientifically with the facts of the material world—*i. e.*, to describe and explain their activities with exactness. Dr. Haldane, on the contrary, vigorously maintains that exclusive adherence to the mechanical dogma has on the contrary been a hindrance in dealing with the facts of biology. I quote a paragraph from his *Organism and Environment* (1917): "Anatomy and physiology, but more particularly anatomy, have become hidebound in the conception that living structure is simply physical structure; and in consequence of this anatomy has for the present the aspect of almost a dead science, in spite of the new life impulse from experimental embryology. The time has come for biology to liberate herself and step forth as a free and living experimental science, with a world before her to conquer by the help of clearer ideas of what life is, and how it can be investigated" (p. 103).

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# NOTICES OF NEW BOOKS.

*The Philosophy of Benedetto Croce.* The Problem of Art and History. By H. Wildon Carr. London, Macmillan and Co. 1917.—pp. x, 214.

Signor Croce's principal philosophical writings have become known to English readers through the translations of Mr. Douglas Ainslee, several of which have been reviewed in this journal; but Professor Carr's monograph is, I think, the first English book to attempt to present in a systematic way the main outlines of Croce's philosophy as a whole. There can be no doubt that Croce has something significant to say, and is likely to attract more attention in the immediate future than he has yet received from philosophical scholars. Whatever the final verdict of philosophy may be regarding the originality and importance of his ideas, we may count it a real gain to make the acquaintance of a writer who combines such power and freshness of imagination with learning and logical power. One is fortunate, too, in being guided by such an admirable expositor as Professor Carr, whose earlier book, *The Philosophy of Change*, has proved of the greatest possible service in promoting a sane and scholarly interpretation of Bergson's philosophy, often indeed succeeding in clearing up difficulties which that author has left untouched. In the present work he has confined himself more closely to explaining and illustrating his author's ideas, without attempting to the same extent as in the Bergson volume a discussion of fundamental principles. Professor Carr has not based his study of Croce upon the English translations, but has referred to the original Italian, and furnished his own translations of the passages quoted. The result seems to me in the highest degree satisfactory. I can scarcely imagine how it would be possible within the compass to give a clearer and more coherent account of Croce's views. One feels that the author has presented the ideas of the Italian philosopher sympathetically and with understanding, yet with no attempt to conceal the omissions and lack of completeness that his system exhibits. Indeed, he stops from time to time to point out the circumstances which have determined the direction and emphasis of Croce's philosophy, adding at one point the following interesting remark: "Every philosopher comes to philosophy with some predominating interest—it may be the problem of religion, the problem of biology, the problem of physical reality, the problem of good and evil, but according to his interest the direction and form of his speculation is determined" (p. 30).

This is not the place to attempt a summary of Croce's main ideas, or to discuss the principles of his philosophy. Professor Carr in a recent article published in the *Proceedings of the British Academy* (Vol. VIII) gives the following statement of what he calls "its main burden": "the fundamental notion on which it is based is that the human mind is subject to a persistent

illusion which pursues it into every sphere of its activity, the notion of existence as something alien, confronting the active mind, independent of it, to which the value mind creates is something added." On the basis of this account those who feel uneasy until a philosophical writer is duly classified may fearlessly attach the label 'Anti-Realist' or 'Idealist' to Croce's philosophy. He is probably more influenced by Hegel than by any other of the classical line of philosophers, though in certain fundamental points he is fond of showing the identity of his doctrine with that of Kant. The philosopher, however, whom Croce honors above all others, is Giambattista Vico. To him, as Professor Carr tells us, Croce awards the distinction of having anticipated the philosophical movement associated with the names of Kant and Hegel (p. 93).

Notwithstanding these general affiliations, Croce's philosophy has an individuality of its own, while his rejection of all transcendent problems and insistence on the fundamental identity of philosophy and history bring his thought into close relation to certain important tendencies of the present day.

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*Idea and Essence in the Philosophies of Hobbes and Spinoza.* By ALBERT G. A. BALZ. Archives of Philosophy. Edited by Frederick J. E. Woodbridge. New York, Columbia University Press, 1918.—pp. 86.

"The purpose of the essay," the writer states, "is to portray the gross misconstructions that have been placed upon the work of Hobbes and Spinoza by taking as the basis of investigation the psychological standpoint of a later day" (p. 78). "The thesis advanced has a negative and a positive aspect. The negative side consists in a denial that either philosopher was actuated by the conception of existence as dual, or that the notion of the 'psychical' or 'spiritual' played an influential rôle in their speculations. . . . The positive side of the thesis may be rendered as follows: First, it is maintained that Hobbes and Spinoza conceived of existence as one, and that this order of existence is, as we should say, the 'physical.' . . . Secondly, with reference to psychological doctrine, it is asserted that with both investigators psychology is purely physiological in character" (p. 7). Seventeen pages are devoted to Hobbes; fifty to Spinoza. The author declares that Descartes partially developed a theory of two mutually exclusive substances, extension and thought, and that in his treatment of thought he made the beginnings of, or at least prepared the way for, a science of states of consciousness. But neither Hobbes nor Spinoza, according to the author, followed the leadership of Descartes in this cleavage of existence. For Hobbes, psychology was a branch of physics, and all psychological facts were motions or clashes of motions (p. 13). The subject of sense was not soul nor mind, but some living creature (p. 12). Seth's interpretation of Hobbes's 'phantasm' as a state of consciousness (*English Philosophers and Schools of Philosophy*) is not, the author thinks, supported by a careful study of the text; the 'phantasm' is as much a set of motions as the

extra-organic object. The study of Spinoza is much more elaborate than that of Hobbes, but its movement and conclusion are analogous. "The claim is advanced that Spinoza's psychology is thoroughly like that of Hobbes, at least in its first intention. It is, on the whole, as radically 'physiological' as that of Hobbes. . . . His psychological terminology is free from implications possessed by that of Descartes. Neither his philosophy nor his psychology is rooted in a doctrine of existence as dual" (p. 29).

Most students of the history of philosophy would agree with the author's positive interpretation of the two systems in question: Hobbes conceived of the world as a vast mechanical order; Spinoza's ideal was fundamentally logical and ethical. But the reader gets a disturbing sense of an effort to make these philosophers of the seventeenth century more logically precise and self-consistent than he can believe them to be. Everyone knows that it used to be the fashion to accept Spinozism as a simple logical unit, and to suppose that the matter of the system was as coherent as the form would suggest. But, more recently, thoughtful commentators have been unable to state that system in terms of a single method; indeed, they have been forced to leave parts of it standing in irreconcilable contradiction: for example, H. H. Joachim, *A Study of the Ethics of Spinoza*, pp. 104, 137. Such a painstaking study as that by Professor Ernest Albee on "The Confusion of Categories in the Philosophy of Spinoza" (*Studies in Honor of James Edwin Creighton*) leaves little doubt that Spinoza shifted in his conception of the type of parallelism that relates ideas and things.

From the "Conclusion" it is evident that the author's interpretation of Hobbes and Spinoza is simply an application of a general theory of the nature and limits of historical study in philosophy. While this very essay is proof of his belief in historical research, he would definitely 'teach it its place.' He speaks of "that mistrust of previous speculation which is a healthy manifestation of the philosophy of the day." He seems unconsciously to look at historical study from without and to apply to its methods and problems some absolute standard which he calls "what the problem is" (p. 79). Apparently for him a philosophical problem may be injected into this or that period of history without being internally affected: "If the historical problem is genuine, human experience at any age will generate it" (p. 79). But philosophical problems cannot properly be classified into the "genuine" and the "artificial"; they cannot be treated as '*things*,' the setting of which is relatively indifferent. The history of philosophy is a *life*, which is continually turning upon itself in criticism; and such criticism rests not upon something outside of the process but upon the total achieved development. The author's own work seems at times to reflect the inadequacy of his theory. For example, why should one who was sure of his history of philosophy refer to Toennies in support of the commonplace that the "epistemological question of the time was whether knowledge attaining the level of the certainty of mathematics, of geometrical demonstration from axioms and definitions, was possible, and how it was possible" (p. 9)? Again, the author seems to infer that the whole connection

between Descartes and Spinoza has been over-estimated because their psychology has less in common than is usually supposed. The author's treatment shows in general a failure to do explicit justice to the complexity of the development of early rationalism.

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*Seneca ad Lucilium Epistulae Morales.* With an English Translation by RICHARD M. GUMMERE. London, William Heinemann (The Loeb Classical Library.) New York, G. P. Putnam's Sons, 1917.—pp. xvi, 467.

The editors of the Library have done well to include in it the *Epistles* of Seneca, which have not been easily accessible to English readers. The translation by Lodge was last issued in 1632, and that by Morell in 1786, and there have been no other complete translations. Lodge's rendering is so excellent that one is inclined to wonder why Professor Gummere did not select it as the basis of his edition, as the editor of Apuleius in the Loeb Library chose that of Adlington. Morell's translation is also of value, being sometimes superior to that of Lodge. Lodge's principle of translation was to render the thought rather than the word, and he has succeeded in making 'this admirable Roman speak English,' as he puts it in his Address to the Courteous Reader. It is true that at times he paraphrases, but his translation is not as a whole unduly free; sometimes it follows the original more closely than that of Professor Gummere. Yet it gives the impression, in general, of a work composed in English, while the new rendering is often an obvious translation. Lodge grasps Seneca's thought in larger sections than Professor Gummere, who seems to work sentence by sentence. This effect is perhaps partly the result of a praiseworthy attempt to reproduce the style of Seneca, but I do not feel that he is more successful than Lodge in this. The earlier writer is also more felicitous in his choice of individual words. As an example of some of these things, Professor Gummere writes: "But I must end my letter. Let me share with you the saying which pleased me to-day. It, too, is culled from another man's Garden." (p. 19). Lodge has it: "I will here make an end of my letter, in making thee partaker of the fruit which this day I have gathered in another man's garden." There are a few places where the recent rendering is unnecessarily colloquial or that of the present day, for example in writing, the "letter . . . you had posted," for 'epistulam . . . miseras' (p. 331).

I have observed a few inaccuracies. For instance, the sentence, "*Eodem die ubi luserunt navigia, sorbentur,*" is rendered, "The very day the ships have made a brave show in the games, they are engulfed." '*Ubi*' indicates that the meaning is not only "on the same day' but 'in the same place'; at least, the word should be rendered. Lodge translates: "Those ships are swallowed the same day, where they wantonly played on the water." In the note on page 436, perhaps by a misprint, Serenus is said to have died from eating "poisoned," instead of poisonous, mushrooms.

However, the translation on the whole renders Seneca's thoughts clearly

and with spirit. It can be read with pleasure, and is to be recommended to those who have gained profit from other Stoic writers, such as Marcus Aurelius, but who, because a translation was lacking, have been unable to study Seneca's *Epistles* in their attempts to learn—as Lodge puts it—"how to live and how to die well."

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*The Theory of Environment: Part I, An Outline of the History of the Idea of Milieu, and its Present Status.* By ARMIN HAJMAN KOLLER. Menasha, Wisconsin, 1918.—pp. x, 104.

This book deals with the influence on man of geographical and climatic environment. The author says in the Preface: "My present concern in this theory being genetic and historical, it seemed best to assemble all the sources one could find bearing on the history of the theory and to indicate the trend of its development in a rough preliminary sketch."

It seems as though this work, with two-hundred and ninety-four footnotes on ninety-four small pages of large type, might have been made frankly a chronological bibliography of the important works on the subject, with comment, and an introduction, for that is what it essentially is. Even the text is made up mainly of quotations, often not from the work the author is discussing, but from some book about it. The author even needlessly quotes incorrect statements, calling attention to their errors. He ventures to say something himself, it seems, only when he knows of nothing that has been written about the book he is treating. The use of so many footnotes, numbers of which could have been omitted or combined with others, and the dependence on quotation do not represent the best scholarly method. This second-hand procedure is like that of the Scribes, who did not teach as though "having authority." One gains—wrongly, I trust—the impression that Dr. Koller has not studied for himself some of the authors, especially the earlier ones, with whom his quotations deal. The section on Jean Bodin (pp. 14–21), for example, is valuable or not according to the worth of what is apparently a dissertation by a pupil of Lamprecht's, on which the author depends. We must all use the critical writings of our predecessors, yet if we do not read a book independently, we cannot assure either ourselves or others of its historical importance; it is one of the diseases of scholarship that, when we might read the great books themselves, we read and accept current interpretations of them. An advanced student should use an exposition of any work of importance to him not as a substitute for it, but as a key to it. It is strange that Dr. Koller, so precise in similar matters, allows himself to quote at second hand. For instance, he does not quote from the original of the *Nouvelle Géographie Universelle*, but relies on a German translation of extracts included in another work. He does not claim completeness for his study, yet he need not have neglected the greater Latin authors. Cicero (*De Fato* 7) ,for example, echoes Plato (*Timaeus* 24) in speaking of the effect of the climate of Attica in

producing wise men, and Lucretius (*De Rerum Natura* 6.1103–18) mentions the effect on mankind of various climates. In connection with Bodin the author might have said something of the Italian economist Giovanni Botero, and perhaps of the German cosmographer Sebastian Münster. Since Shakespeare is included, Milton should also appear, for he suggested that "cold climate" might prevent him from rising high in poetry (*Paradise Lost* 9.44–6), and in his tractate *Of Education* he mentions the supposed effect of northern air on language. The author does not handle his subject philosophically or critically: he does not, for instance, remark on the advantages and disadvantages of the statistical method used by the brilliant Ellsworth Huntington in the work summarized at rather disproportionate length on pp. 97–103. Dr. Koller's English style is also not beyond improvement.

But though the book cannot be given high rank as a historical treatise, it is useful, for it does something toward satisfying our real need for a history of geographical theory—a subject which has not yet been adequately treated. In judging Dr. Koller's production we should remember that he did not have a beaten track to follow. We cannot but welcome it as a bibliography such as is not elsewhere to be found. The references to work done during the past century, both on the history of the subject and in its further exposition, seem very full. Such valuable assistance in our study of the inclusive and important subject of man's relation to his physical surroundings is gladly to be received. The work also deserves praise for indicating that this relation was observed in antiquity, though it has received systematic attention only in recent times. We should commend the author because he undertook this historical and scientific study as a student of literature, for it is the result of his desire to understand Herder's theory of milieu. Such a study is by nature altogether above the ordinary loose talk about a poet's theory of nature, and suggests a method of finding out what a poet's theory really is. A student of literature who engages in such labors reveals a true appreciation of the complex nature of literature in its infinite connections with the thought and life of men, and is evidently aware that its adequate interpretation requires wide and deep knowledge.

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The following books also have been received:

*Proceedings of the Aristotelian Society.* New Series.—Vol. XVII. Containing the papers read before the Society during the Thirty-eighth Session, 1916–1917. London, Williams and Norgate, 1917.—pp. 497.

*Studies in the History of Ideas.* Edited by the Department of Philosophy of Columbia University. Vol. I. New York, Columbia University Press, 1918.—pp. 272.

*Social Process.* By CHARLES HORTON COOLEY. New York, Charles Scribner's Sons, 1918.—pp. vi, 430.

*Studies in the History and Method of Science.* Edited by CHARLES SINGER. Oxford, at the Clarendon Press, 1917.—pp. xiv, 304.

# NOTES.

## Basis of Reference in Discussion on Mechanism and Vitalism.

We reprint here from *The Journal of Philosophy, Psychology and Scientific Methods* (Vol. XV, No. 17) "The Basis of Reference" adopted by the Leaders of the Discussion to be held before the American Philosophical Association at its meeting, December 27 and 28, 1918:

"What follows attempts to be an objective statement of the present condition of science, bearing on the problem of Mechanism and Vitalism:

"1. A geometrical description of the universe has been found applicable, without measurable imperfection, to all parts of the universe in so far as they occupy space. All material objects, all living bodies, are geometrical.

"2. A kinematical description of the universe also has been found applicable, without measurable imperfection, to all parts of the universe which occupy space. This description involves time and motion as well as space. All material objects, all living bodies, are kinematic.

"3. A mechanical description, involving the further concept of mass, also has been found applicable, without measurable imperfection, at least to all large masses. All large material objects, all large living bodies, are mechanical.

"4. A physico-chemical description, involving such concepts as chemical composition, differentiation into phases, concentration, and every kind of potential, also has been found applicable, without measurable imperfection, in the preliminary survey of all molecular systems. All living bodies are molecular systems, or, in other words, are physico-chemical.

"5. A description in geometrical, kinematical, mechanical, and physico-chemical terms may be called a *mechanistic* description.

"6. The evidence in favor of the complete validity of the mechanistic description consists in its continuous development without any check, and in the fact that all quantitative measurements are consistent with such a description.

"7. The discrimination of living bodies from other physico-chemical systems rests upon certain common characteristics of the former class of systems. These characteristics are probably best described by the words organization and regulation.[1] It is true, however, that regulation, and perhaps also organization, can occur elsewhere. Living organisms may also be characterized by assigning the words function and teleology to their behavior or their constitution. They are, nevertheless, mechanistic through and through because they are physico-chemical systems, manifesting mechanical phenomena, kinematical phenomena, and geometrical characteristics.

"8. The ascending scale from geometry to physical chemistry and on through

[1] The addition of growth, reproduction, nutrition was suggested by one member.

the organic to what Spencer calls the super-organic is not to be regarded as a classification which has been worked out with complete success. Nevertheless, the several sciences involved include all the known kinds of natural phenomena, at least below the level of the organic, and perhaps below the level of mind. Moreover, the whole experience of science shows that these several departments of science are strictly additive and cumulative. The kinematical is the geometrical plus something else. The mechanical is the kinematical plus something else, and so on. There is much room for difference of opinion whether these successive increments are homogeneous or heterogeneous. But this is probably a matter of definition or of scale. What is important is the vast induction that they involve only addition."

We give below a list of articles in current philosophical magazines:

MIND, XXVII, 107: *H. Rashdall*, The Religious Philosophy of Professor Pringle-Pattison; *C. D. Broad*, A General Notation for the Logic of Relations; *J. E. Turner*, Dr. Bosanquet's Theory of Mental States, Judgment, and Reality; *W. M. Thorburn*, The Rights and Wrongs of a Person (I).

THE AMERICAN JOURNAL OF THEOLOGY, XXII, 3: *Andrew Edward Harvey*, Martin Luther in the Estimate of Modern Historians; *M. Sprengling*, The Aramaic Papyri of Elephantine in English (Continued); *A. Clinton Watson*, The Primary Problem for an Empirical Theology. II; *James Westfall Thompson*, Church and State in Mediaeval Germany. III; *Elmer Truesdell Merrill*, On "Clement of Rome."

THE MONIST, XXVIII, 3: *William Benjamin Smith*, Mors Mortis; *James H. Hyslop*, Predicaments in Philosophy; *Eugenio Rignano*, The School of To-Morrow; *Victor Delbos*, The Conceptions of the History of Philosophy; *Edward Lawrence*, Prayer. Its Origin, Meaning and Ethical Significance; *James Lindsay*, Rationalism and Voluntarism.

PSYCHOLOGICAL REVIEW, XXV, 4: *H. B. Reed*, Associative Aids: II. Their Relation to Practice and the Transfer of Training; *Rudolf Pintner*, Intelligence as Estimated from Photographs; *Curt Rosenow*, The Genesis of the Image; *Leonard T. Troland*, The Heterochromatic Differential Threshold for Brightness: I. Experimental; *Prentice Reeves*, The Rate of Pupillary Dilation and Contraction.

THE JOURNAL OF PHILOSOPHY, PSYCHOLOGY, AND SCIENTIFIC METHODS, XV, 15: *Wilbur M. Urban*, Again, the Value Objective and the Value Judgment: Reply to Professor Perry and Dr. Fisher; *Louise Brink*, How the Concept of the Unconscious is Serviceable; *Wendell T. Bush*, Another Comment on Professor Warren's Analysis of Purpose.

XV, 16: *George Santayana*, Literal and Symbolic Knowledge.

XV, 17: *B. H. Bode*, Consciousness as Behavior; *Henry Bradford Smith*, Non-Aristotelian Logic.

XV, 18: *Hartley B. Alexander*, Metaphysics as a Fine Art; *M. T. McClure*, Pragmatism and Democracy; *Wesley Raymond Wells*, On Religious Values: A Rejoinder.

XV, 19: *F. C. S. Schiller*, Truth and Survival Value; *David F. Swenson*, Sixteen Logical Aphorisms.
XV, 20: *Grace A. deLaguna*, The Empirical Correlation of Mental and Bodily Phenomena; *Rupert Clendon Lodge*, The Division of Judgments.

REVUE PHILOSOPHIQUE, XXIII, 7 and 8: *G. Seailles*, Jules Lachelier. La méthode de réflexion; *J. Sageret*, L'opinion; *A. Rey*, La transmutation et les sciences physico-chimiques; *A. Chiappelli*, Le concept moderne de la philosophie; *L. Dugas*, Habitude et conscience.

XXIII, 9 and 10: *L. Robin*, Études sur la signification et la place de la Physique dans la Philosophie de Platon (Ier article); *G. Milhaud*, Descartes expérimentateur; *H. Piéron*, La mémoire; *G. Belot*, L'avenir de la Religion et le mysticisme moral d'après M. Loisy.

REVUE DE MÉTAPHYSIQUE ET DE MORALE, XXV, 3: *M. de Wulf*, Civilisation et philosophie aux XIIe et XIIIe Siècles; *E. Guillaume*, La théroie de la relativité et le temps universel; *V. Delbos*, L'Art et la Philosophie.

RIVISTA DI FILOSOFIA NEO-SCOLASTICA, X, 3: *Federico Kiesow*, Il processo di Socrate; *Maurice De Wulf*, L'ordine artistico.

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